NEW EQUIPMENT DIGEST

A Penton Publication

June, 1957

Volume 22—Number 6

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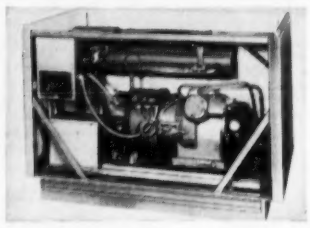
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 108

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

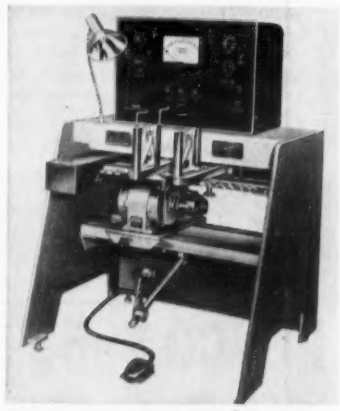
PACKAGED WATER CHILLER
available in 3 and 5-hp models



Water chiller, compressor, water - cooled condenser and controls comprise this packaged water chiller available in 3 and 5-hp sizes. Components are assembled into an insulated, bonderized steel cabinet requiring only 8.3 sq ft of floor space. No field refrigerant piping is required. Controls include an on-off switch, thermometer that can be set to maintain desired water temperature, a thermostat set at 38° F to prevent water freezing within chiller and a magnetic starter that controls compressor operation. Unit can be operated on 208/220-v 60-cycle three-phase, or 230 v 60-cycle single-phase current. Horizontal shaft, field-serviceable hermetic compressor is mounted on vibration absorbers and has suction gas-cooled motor. Made by **Worthington Corp.,** 427 Worthington Ave., Harrison, N. J.

▲ For more details circle **NED-1 F7** on enclosed inquiry slip ▲

FRAME BALANCING MACHINES
in ½-oz to 150-lb weight capacities

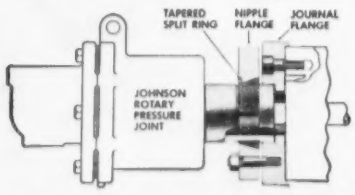


Weight capacities of models in the F series frame balancing machines range from ½-oz to 150 lb. Magnitudes of unbalance are indicated by large meter calibrated directly in terms of unbalance correction procedure selected. Angular positions are revealed by stroboscopic lamp and are readable either at a location to add weight, or to remove weight. High production rates on close tolerance work are possible. Made by **MacDell Corp.,** 856 W. Lake St., Chicago 7, Ill.

▲ For more details circle **NED-2 F7** on enclosed inquiry slip ▲

QUICK RELEASE NIPPLE
used with rotary pressure joints

This quick release or Q nipple, consisting of a journal flange, a tapered split ring and a nipple flange, simplifies connection of rotary pressure joints to journals on paper machines, calenders, rubber mills and similar machines. Joints are used to admit steam or liquids under pressure to rotating rolls or drums. Only a wrench is needed for installation or removal of the joints. It can be furnished on the pipe-supported type J, the rod-supported type L, and the self-supporting type S joints, as well as the type N which serves where an internal pipe must rotate with the roll. Sizes range from ¼ to 8 in. for pressures up to 250 psi. Made by **Johnson Corp.,** 812 Wood St., Three Rivers, Mich.



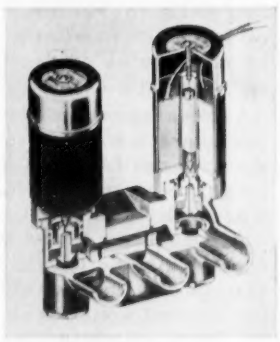
▲ For more details circle **NED-3 F7** on enclosed inquiry slip ▲

THERMOSTAT
stainless steel resists corrosion

Type 316 stainless steel and Heliarc welded exterior joints enable the model 18000-26 Thermoswitch to be used in corrosion resistant service. It withstands 5 per cent H_2SO_4 at temperatures up to 120° F, acetic acid vapors, halide solutions and alkaline solutions. Unit threads directly into a tank or pipe wall and its contacts open above the control setting. Control temperatures are adjustable from −100 to 400° F. Current rating is 10 amp, 115 v ac or 2 amp, 115 v dc. Cartridge is ⅝-in. diameter and has 3-in. immersed length. Control accuracy is within 2° F. Made by **Fenwal Inc.,** 70 Pleasant St., Ashland, Mass.

▲ For more details circle **NED-4 F7** on enclosed inquiry slip ▲

DOUBLE SOLENOID VALVE
for three-way flow control uses



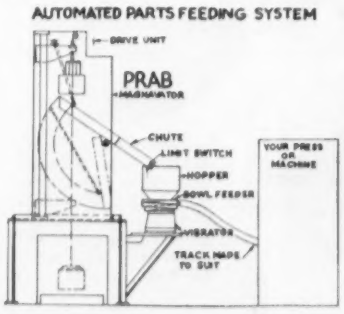
Unusual flexibility for three-way flow control applications involving air, water, oil or other fluids is provided by this three-way double solenoid valve. Unit is available in assemblies for mixing, divided flow and cylinder control. For mixing, valve has two inlets and a common outlet. For divided flow, it has one inlet and two outlets, while for cylinder control, it has an inlet, cylinder and exhaust connections. Valve is bubble-tight and can be used at pressures from 5 to 1000 psi with both pistons normally closed and at 5 to 500 psi with either or both pistons normally open. It is offered in ½ and ¾-in. pipe sizes. Controlled closing can be built into the unit. Made by **Atkomatic Valve Co.,** Dept. NED, 545 W. Abbott St., Indianapolis 25, Ind.

▲ For more details circle **NED-5 F7** on enclosed inquiry slip ▲

SMALL PARTS FEEDER
incorporates a magnetic elevator

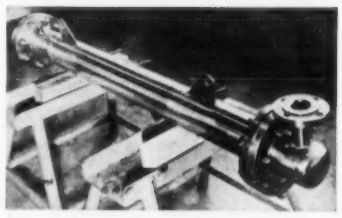
Pins, nuts, rivets, stampings and similar small parts are transferred, metered and fed from skids or receiving containers to a press or other machine for further operations by this automated feeding system. It incorporates a Magnavator, an automatic magnetic small parts elevator which lifts ferrous parts into position for falling into a tray. Parts slide down through a demagnetizer to the mouth where a limit switch controls the material level of the container being fed. A vibrator-agitated bowl feeder draws from the hopper and automatically feeds, aligns and meters parts in the proper amounts to a press or machine. Made by **Prab Conveyors Inc.,** 30119 Groesbeck Hwy., Roseville, Mich.

AUTOMATED PARTS FEEDING SYSTEM



▲ For more details circle **NED-6 F7** on enclosed inquiry slip ▲

HEAT EXCHANGERS
sizes range from 56 to 316 sq ft



Flexibility of standardized line of heat exchangers allows most heat exchanger problems to be solved without need for complicated designs. Off-the-shelf stainless steel exchangers are available in sizes from 56 to 316 sq ft. Other sizes with up to 20-in. shell diameters are assembled from "flexible-standards," including tubing, bonnets, shells, baffles and nozzles. Many combinations of diameter and length are available for any given heat transfer service, and number of passes can be varied to suit specifications. Standard shell diameters range from 4½ to 20 in. These are designed for 75-psi tube pressure and 150-psi shell side pressure up to 300° F. Photo shows finished unit made from in-stock parts by **Pfaudler Co.,** Dept. NED-2, 1036 West Ave., Rochester 3, N. Y.

▲ For more details circle **NED-7 F7** on enclosed inquiry slip ▲

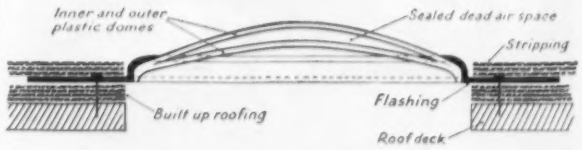
OUTDOOR INCINERATOR
burns damp, green or dry refuse

Draft control in the model C10 outdoor incinerator prevents burning pieces of paper from blowing and minimizes smoke and smell. The redesigned 10-bushel unit requires no installation and burns damp, green or dry refuse to fine ash in any weather. It is safe to use 10 ft from buildings. Made from Aluminized steel, it burns sweepings, packing, cartons, food scraps and rags. It has double-panel construction, a hinged loading hood and a shovel-wide ash cleanout door. Size is 52 in. high by 35 in. square. Made by **Alsto Co.,** Dept. NED, 4007 Detroit Ave., Cleveland 13, O.

▲ For more details circle **NED-8 F7** on enclosed inquiry slip ▲

INSULATING SKYLIGHT
has double insulating plastic dome

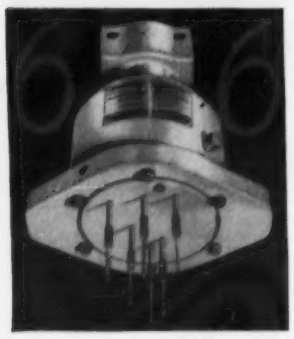
High level of diffused natural light is provided within an industrial building with minimum of heating and air conditioning loss by the Consolite Double



Dome Skylight. It is a twin-domed glass fiber reinforced plastic bubble with insulating dead air space between inner and outer domes. The double thickness plastic cannot be shattered by ordinary hailstorms, rocks, shock or vibration. Flexural strength is 20,000 psi. Square, round and rectangular shapes in self-flashing, curb mounting and bond types are offered in sizes from 18 to 74 in. across. Prices range from $25 to $126. Made by **Resolite Corp.,** Dept. D-2, Zelienople, Pa.

▲ For more details circle **NED-9 F7** on enclosed inquiry slip ▲

New Series 66 ZAGAR
GEARLESS DRILL HEAD



√ Multi-Hole Drilling
√ IN ANY MATERIAL
√ NEW LOW PRICE
√ Quick Delivery, Too!

Do you want to drill profitably up to 6 holes simultaneously? Here's our answer. For less complicated drilling (and tapping) jobs, up to 3½" spread, but for high production, Zagar's "66" fills the bill. Maximum drill diameter —⅝". You'll like both our deliveries and our price.

Turn over your hole problem to the Zagar representative—or, phone REdwood 1-0500 for his name. He'll come quickly.

ZAGAR, INC. 23880 LAKELAND BOULEVARD, CLEVELAND 23, OHIO

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

For more details circle NED-12 F7 on enclosed inquiry slip

WALTON Specialized TOOLS
PRODUCTION TIME AND LABOR SAVERS

Write us for DATA FOLDER #26 giving prices and specifications, and describing how these time and labor saving tools will help reduce costs in your shop.

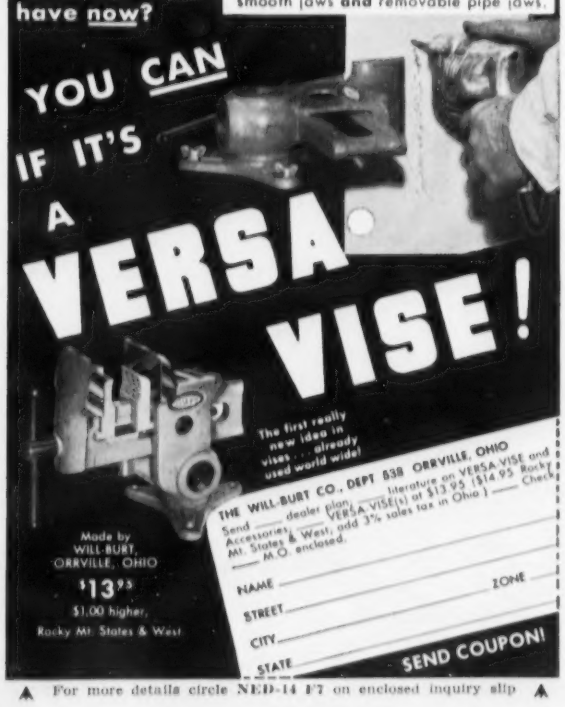
The WALTON Company
HARTFORD 10, CONN.

For more details circle NED-13 F7 on enclosed inquiry slip

CAN YOU DO THIS... with vises you have now?

Makes awkward jobs easy! Turn VERSA-VISE a full circle—standing or laid down—and lock it where you want it just by tightening the jaws! Use it to hold anything, paper-thin up to 5" thick. Has anvil, smooth jaws and removable pipe jaws.

YOU CAN IF IT'S A VERSA VISE!



The first really new idea in vises... already used world wide!

Made by WILL-BURT, ORRVILLE, OHIO
$13.95
$1.00 higher, Rocky Mt. States & West

THE WILL-BURT CO., DEPT 838 ORRVILLE, OHIO
Send ____ dealer plan, ____ literature on VERSA VISE and Accessories, ____ VERSA VISE(s) at $13.95 ($14.95 Rocky Mt. States & West; add 3% sales tax in Ohio) ____ Check ____ M.O. enclosed.
NAME ____
STREET ____ ZONE ____
CITY ____
STATE ____
SEND COUPON!

For more details circle NED-14 F7 on enclosed inquiry slip

New Press Improves Readability

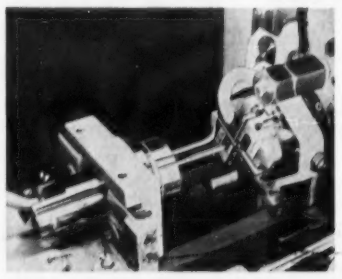
We have always advocated the installation of new equipment and materials to speed production and cut costs. We also practice this in our own operation. Through the years, we have invested thousands of dollars to give you, our readers, better service and the best looking new equipment magazine in the business.

Our latest addition is a $150,000 Harris-Seybold magazine rotary press. This fully automatic machine zips out press sheets at the rate of 5500 per hour, compared with 1000 to 1200 per hour on the now-retired flat bed presses. Speed alone is not the sole purpose for the purchase of this press. By using curved electrotype printing plates of all of the pages, we have obtained new clarity and readability of the type and illustrations. This is readily apparent as you go through the pages. The excellence of typography and printing minimizes your eye fatigue, saves you time and assures ease of reading.

This is just another step in our continuing effort to keep NEW EQUIPMENT DIGEST your No. 1 source of industrial product information.

A. N. Gregg
EDITOR

THREADING MACHINE
for small diameter workpieces has a No. 4 to ⅝-in. threading range



Class 3 and 4 threads are produced on a production basis by the 5C Landmaco single threading machine. It has a No. 4 to ⅝-in. range and is furnished with or without lead screw feed. The 5VVV Lanco hardened and ground die head is equipped with Landis tangential chasers. Machine has an air-operated carriage front and carriage return, and automatic or manual work stop.

Various special carriage fronts for holding difficult-to-grip workpieces can be supplied. Eight spindle speeds range from 150 to 1000 rpm, with higher or lower speeds available for special use. Carriage has a nominal 4½-in. travel. Lead screw is recommended where maximum thread accuracy and close lead tolerances are to be maintained. Electrical control station is mounted on top of the headstock for accessibility. Coolant system with filter is incorporated. Made by **Landis Machine Co.**, 40 E. Fifth St., Waynesboro, Pa.

For more details circle NED-15 F7 on enclosed inquiry slip

for inspection and fine assembly work
IPCO "FLUD-LITE" MAGNIFIER

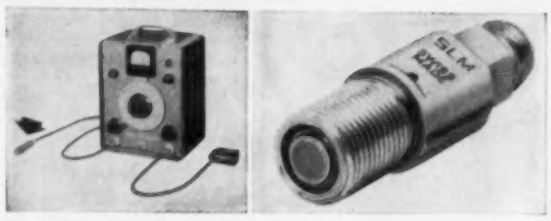
Scientifically focused, shadow-free fluorescent light. Magnifies the work through a high quality 5" diameter lens. Bench model illustrated. Also made in hand model for portable use.

WRITE FOR BULLETIN NO. 58

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-16 F7 on enclosed inquiry slip

NEW PRODUCT NEWS



Kistler Indicator Measures Engine Pressure Changes Quickly and Precisely

Featuring high sensitivity and extremely fast response, the new precision-made Kistler SLM Engine Pressure Indicator has been designed for research, engineering, testing and evaluating diesel, gasoline, gas, jet, rocket and atomic engines. It is rapidly being adopted by the automotive, aircraft, engine and fuel industries.

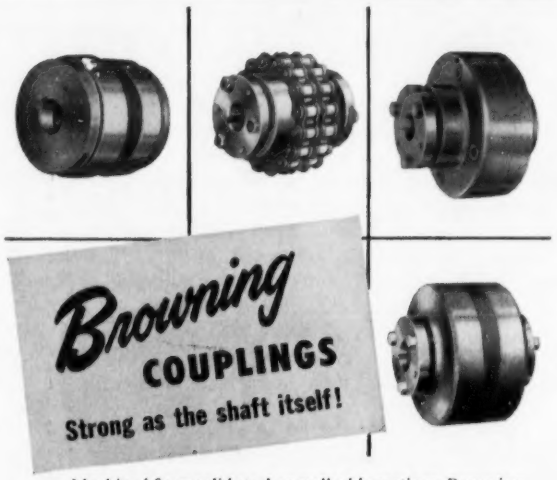
Pressure changes generating an electrical charge in the Swiss-made SLM Pressure Pickup are measured by an electrostatic type amplifier and displayed on an oscilloscope. Small pressure variations in overall cylinder diagrams can be magnified as much as a thousand times. Rugged enough to withstand diesel combustion and other temperatures up to 600° F, without special air or water cooling, the pickup will measure combustion pressures for all ranges, 0.1 through 3000 psi. With the addition of a Kistler adaptor, fuel injection pressures to 20,000 psi can be measured.

The ability of the SLM Indicator to measure directly either *pressure* or *rate* of pressure changes, makes it invaluable for fuel, combustion and detonation studies, load balancing, monitoring, peak pressure adjustment on production engines, and maintenance or repair operations. The most advanced engine analyzer available, it can be operated as readily as a TV set. Trouble shooting and ignition or injection timing are greatly simplified. Optional equipment includes a selector switch which permits operation of several pressure pickups with a single amplifier-calibrator unit, and a piston displacement indicator for direct display of traditional indicator diagrams.

For complete information on the SLM Pressure Indicator, including Swiss-made SLM Pickup, special low-noise cables and the Kistler "Piezo-Calibrator" (amplifier-calibrator), request Bulletin EPI-114.

Kistler Instrument Corporation, Dept. NE, 15 Webster St., North Tonawanda, N. Y. Adv.

For more details circle NED-17 F7 on enclosed inquiry slip



Browning COUPLINGS
Strong as the shaft itself!

Machined from solid steel or malleable castings, Browning couplings offer compact design and maximum strength. Here you'll find a wide range of flexible, rigid and chain couplings employing Browning's malleable split taper bushing; also fixed bore in the smaller sizes, and a new line of minimum bore chain couplings. It's easy to choose the coupling best suited for each job, when you examine the complete Browning line.

Ask Browning Distributor or write for Catalog V169

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

For more details circle NED-18 F7 on enclosed inquiry slip

REVCO Sub-Zero Chests

- for shrink fits
- for seasoning gauges and tools
- for testing • for research
- for processing to −140°

Model RSZ503 Rivet Cooler (shown) equipped with 90 rivet canisters, temperatures to −30° F. 110V, 60 cycle, single phase.

Model SZH153 with temperatures to −95° F. 110V; 60 cycle, single phase.

Model SZH653, larger capacity, temperatures to −85° F. 110V, 60 cycle, single phase.

Model SZHC657. Same capacity as SZH653 but attains temperature as low as −140° F. 220V, 60 cycle, single phase.

Refrigeration: Model SZHC657 operates with 3 Tecumseh hermetic compressors in a two system cascade. Other Sub-Zeros use 2 hermetics in a two stage system. Rivet Cooler operates with single hermetic unit. All models equipped with efficient fan-cooled condensers—no liquid coolant required. *Write Today for Full Specifications and Prices.*

Description	Model	Cu.Ft.	Temp. Range Rm. 70°	Temp. Range Rm. 110°	Outside Dim. L	Outside Dim. W	Outside Dim. H	Inside Dim. L	Inside Dim. W	Inside Dim. H
Sub-Zero	SZH153	1.5	−95°F.	−85°F.	42"	28"	42¼"	23"	9"	12½"
Sub-Zero	SZH653	6.5	−85°F.	−75°F.	60"	28"	42¼"	47"	15"	16"
Sub-Zero	SZHC657	6.5	−140°F.	−125°F.	60"	28"	42¼"	47"	15"	16"
Rivet Cooler	RSZ503	5.0	−30°F.	−20°F.	42"	28"	41"	30"	16"	18"

REVCO, Inc.
Setting Trends in Refrigeration since 1938 Deerfield, Michigan

For more details circle NED-19 F7 on enclosed inquiry slip

NEW! DISCOVERY!
SAVES PLUMBING BILLS

★CLEANS INSTANTLY

Chicago — June 1st — Factories, Machine Shops, Offices including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—using Water Impact and Air Pressure, here is a new unit called the **Plumber's Flushing Gun**, which cleans all lines up to 100 ft. It will open any number of bends in pipe. Yet anyone can operate this new gun, which triggers easily.

TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, sand, and other debris can be cleared with one or more shots from the gun, **saving the owner, the Gun's price the first time it is used.** This new Flushing Gun may be used on any ½ to 6 inch waste pipe including Sink Drains, Floor Drains, Hot Water Pipes, Drinking Fountains, Septic Tanks, and Urinals. Obstructions melt away INSTANTLY when struck by the hammer like blow of this new unit.

AMAZINGLY EFFECTIVE

Hose attachment feeds water thru gun while air is released causing chain reaction in pipe cleaning the most stubborn stoppage.

This new Plumber's Flushing Gun is offered on a 30 Day Free Trial to prove its value. **BUT MOST IMPORTANT IS THIS**—What is this Tool worth to your Factory, Building, Machine Shop or in your own Home in **Costly Plumbing Bills Saved.** For your own good—Fill coupon right now—No agent will call—Obey that urge, mail now or write postcard. (Chicago Phone Kildare 5-1702)

MILLER SEWER EQUIPMENT, INC. 4638 N. Central Ave., Chicago 30, Ill.
Please send FREE BOOKLET on Flushing Gun, I am not obligated.
NAME
FIRM
STREET CITY STATE

▲ For more details circle NED-20 F7 on enclosed inquiry slip ▲

it's *Cardinal*
MASONRY BLADES and SAWS for LOW-COST CUTTING of

Brick, Tile, Block, Concrete and Refractory and other Hard & Soft Masonry Materials

FOR BETTER MAINTENANCE—CARDINAL makes a variety of specifications in 6"-7"-8"-9"-10" break and wear resistant abrasive cutting blades for use on all standard makes of portable hand saws.

FOR PRODUCTION MASONRY CUTTING—CARDINAL makes both DIAMOND and NON-BRAK Abrasive masonry cutting blades in 12"-14"-16"-18" sizes—and offers the amazing CARDINAL MASONRY SAW with Micrometric adjustments and other exclusive features in 14" and 18" sizes—both super-powered, for faster, low-cost masonry cutting. For the better price . . . for the better masonry blade and saw value, write for the Cardinal story and price list.

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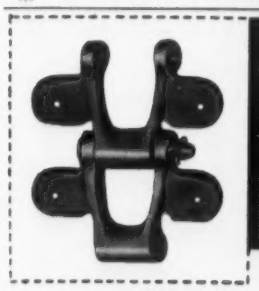
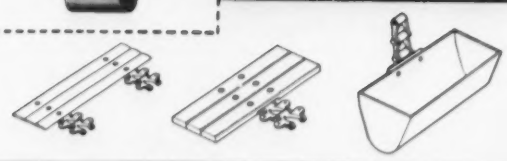
144 BURNSIDE ST., PHILA. 27, PA., U. S. A.
WORLD'S LARGEST MANUFACTURERS OF ABRASIVE AND DIAMOND MASONRY BLADES AND SAWS • DISTRIBUTORS IN PRINCIPAL CITIES

▲ For more details circle NED-21 F7 on enclosed inquiry slip ▲



These modern . . .
FORGED
HEAT-TREATED
Steel Links



. . . are designed to give you
- **GREATER DURABILITY**
- **EXTRA STRENGTH**
- **LONGER—HARDER WEAR**

FEATURES Pins locked against rotation. Every link has wings for conveyor attachment. IDEAL for Slat, Basket, Drag, and other types of conveyors.

SEND FOR COMPLETE DATA

ROBERT A. MAIN & SONS, INC.
231 PASCACK ROAD • PARAMUS, N. J.
SOME TERRITORIES OPEN

▲ For more details circle NED-22 F7 on enclosed inquiry slip ▲

CALCULATING MACHINE
3-lb unit figures to 15 digits

Multiplication, addition, division and subtraction calculations can be done on model 101 Produx - Multator. Machine weighs only 3 lb, will calculate to 15 digits and is equipped with back transfer, setting levers in three colors, revolutions counter, cancellation knob and separation indicators. Suction feet hold unit firmly in place. Made in West Germany, the calculator sells for $69.95 and is distributed by **Silver Bells, Ltd.,** Dept. NED, 600 Sixteenth St., Oakland, Calif.

▲ For more details circle NED-23 F7 on enclosed inquiry slip ▲

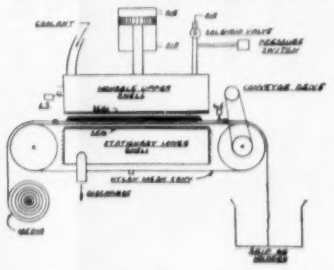
ELECTRIC TORCH LIGHTER
plugs into any 110-v outlet

Welding torches need only be held within 8 in. of the Torchie electric torch lighter for an instant foolproof light. The compact electric torch lighter measures 3 in. high by 3 in. across and plugs into 110 v outlet. Made with a low voltage transformer, lighter can be left plugged in at a cost of only a few cents a day. It sells for $9.95. Made by **Breese Burners, Inc.,** Box 4158, Coronado Station, Santa Fe 14, N. Mex.

▲ For more details circle NED-24 F7 on enclosed inquiry slip ▲

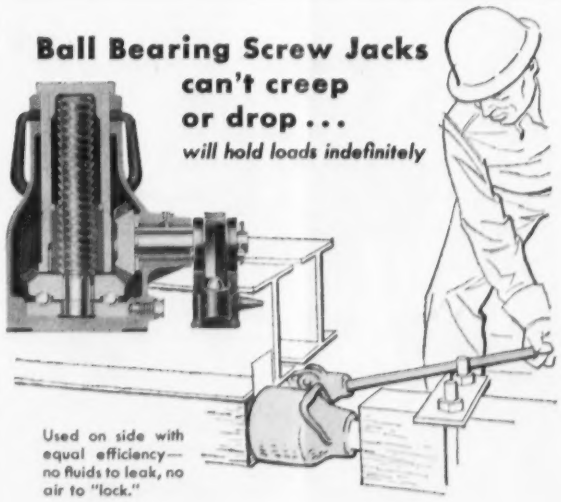
COOLANT FILTER
self-cleaning, works under pressure

High dirt content emulsions and oils are automatically processed by the Hydromation filter, a self-cleaning unit which operates under pressure. Flat sheet of filter media such as paper, cloth, felt or glass fiber removes particles as small as 0.0002-in. at flow rates from 10 to 3000 gpm. An endless nylon mesh belt carrying the filter media separates two compartments, one movable and one stationary. Liquid is pumped to the top compartment and forced through the media under pressure for discharge from the bottom. Rise in internal pressure caused by build-up of sludge on the media shuts down the system, causes the belt and media to index, then restores operation. Made by **Hydromation Engineering Co.,** 19665 Schoolcraft, Detroit 23, Mich.



▲ For more details circle NED-25 F7 on enclosed inquiry slip ▲

Ball Bearing Screw Jacks can't creep or drop . . .
will hold loads indefinitely



Used on side with equal efficiency—no fluids to leak, no air to "lock."

These jacks can't move up or down unless you use jack handle to apply power to ball bearing actuated gears in base that turn the nut. Available in 15 to 50 ton capacities. Dependable, fully enclosed—*seldom need lubrication or servicing.*

Ask your nearest recognized distributor, or write the world's oldest and largest manufacturer of lifting jacks, the Duff-Norton Co., P. O. Box 1889, Pittsburgh 30, Pa. Ask for bulletin AD-12-N.

DUFF-NORTON JACKS
"Giving Industry a Lift Since 1883"

▲ For more details circle NED-26 F7 on enclosed inquiry slip ▲

50 Million Count Life

Endurance Rated COUNTERS for every purpose
Electric Counters and Actuators.
Stroke and Revolution Mechanical Counters.
Coil Winding Counters.
Automatic Batch Counters.

Tested at 1000 CPM; reliable at much higher speeds.
Only 7 watts power input.
Balanced armature for reliability under vibration encountered on airborne equipment.
Available for standard voltages to 150 and all standard frequencies, including DC.

See your PIC Distributor or write for Catalog.

PIC *Production Instruments*
DIVISION OF GENERAL CONTROLS CO.
700-12 W. Jackson Blvd., Chicago 6, Ill.
42 Branch Offices and Representatives serving USA and Canada

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today's most "able" HAND TYPE CLEANER by IDEAL

- **VACUUMS**
- **BLOWS** • **SPRAYS**
- **DRIES***

HEAVY DUTY MODEL. Medium and Light Duty models also available.

Capable . . . Delivers efficient, economical, all-around service — whether you use it as a vacuum, blower, sprayer or drier*. Cast aluminum housing, streamlined and light in weight, makes possible long, continuous use without operator fatigue.

*Heater Nozzle available for Light Duty Model only.

Durable . . . Outlives lesser cleaners because it is ruggedly built to withstand the roughest industrial use. Heavy Duty 1⅓ H.P. motor, air-cooled for extra long life, blows at a velocity of 26,500 feet per minute.

Adaptable . . . Economically converts to Tank Type cleaner in less than a minute. Choose from either of two Conversion Packs:

1. TANK CONVERSION PACK

Multiply the usefulness of IDEAL'S Heavy and Medium Duty Hand Type Cleaners by converting to a powerful, all-purpose STANDARD Cleaner. Conversion Pack consists of wheel-mounted 12-gallon steel tank and large dust-tight bag.

2. 55-GALLON DRUM CONVERSION PACK

For IDEAL'S Heavy Duty Hand Type Cleaner. A Conversion Pack consisting of (1) cast aluminum cover and (2) dust bag; and your own 55-gallon drum, gives you a "king-size" industrial tank type cleaner. Four-wheel dolly optional.

Sold Through America's Leading Distributors
In Canada: Irving Smith, Ltd., Montreal

IDEAL INDUSTRIES, Inc.
1032-F Park Avenue, Sycamore, Illinois
Please send me full catalog data on IDEAL'S Hand Type Cleaners and Conversion Packs.
Name
Company
Address
City Zone State

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ALPHA

TWO POINT BACK GEAR UNDER DRIVE PRODUCTION PRESSES
capacity of 75 to 200 tons

These precision presses are basically precision operating, high-speed automatic stamping presses.

NO PITS REQUIRED.

UNBALANCED DIES can be handled without distortion.

FAST, ACCURATE, WILL GIVE LONG TROUBLE-FREE SERVICE and LONG DIE LIFE.

PRESSES UP TO 300 TON CAPACITY, AVAILABLE TO CUSTOMER PARTICULAR REQUIREMENTS.

Outstanding Features
- Shut Height Adjustment in Head.
- Center Drive Type Herringbone Gears.
- Scrap Cutter Action on Up-Stroke of Press.
- Cam Adjustments for Brake & Roll Feeds.
- Micro Adjustment of Metal Travel.
- Timing of Scrap Cutter from 0° to 45° of Up-Stroke of Press.
- Positive Shut Height Lock.
- Bronze Sleeve Bearings Replace Gibs as Utilized on Conventional Presses.

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ALPHA PRESS & MACHINE, INC.
9281 FREELAND AVENUE • DETROIT 28, MICHIGAN

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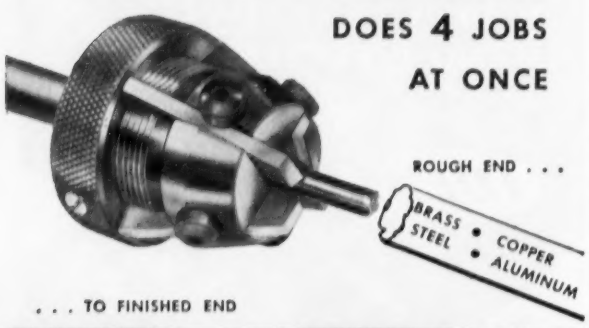
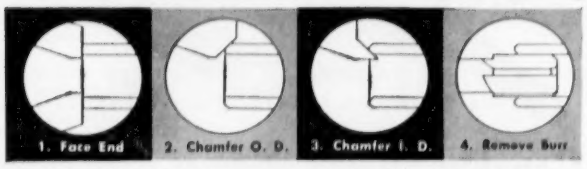
TUBE DEBURRING TOOL

DOES 4 JOBS AT ONCE





- Replaceable cutters
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- Adjustable for size control
- Easily reground in your plant

Standard sizes for 3/16" to 1-1/4" tubing.

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GENESEE MANUFACTURING COMPANY
566 HOLLENBECK ST. • ROCHESTER 21, N. Y.
Adjustable Hollow Mills • Facing and Counterboring Tools • Special Production Tools
Tube Deburring Tools • Since 1908

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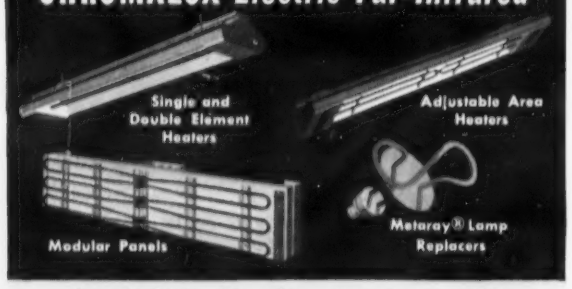
FAST uniform heating
. . . dialed to your exact need
CHROMALOX *Electric Far-Infrared*



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Fast . . . up to 75% faster than convection

Uniform . . . no over- or undercuring

Color-blind . . . absorbed almost equally by all colors

Clean—safe . . . no fumes, no flames, no glare

Accurately controlled . . . with infinite number of settings to match different jobs

Unbreakable, all-metal, maintenance-free

Easy and economical to put on the job

Chromalox Electric Far-Infrared is the answer

See ad on Page 75

FREE BULLETINS for each type heater. Tell us your needs and we'll give you specific recommendations. Write today.
C-2107

Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pennsylvania

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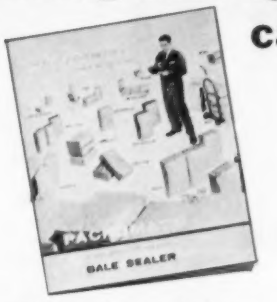

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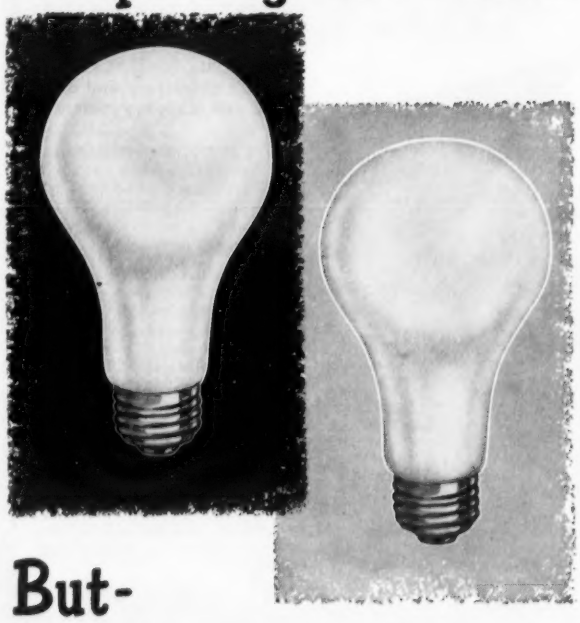

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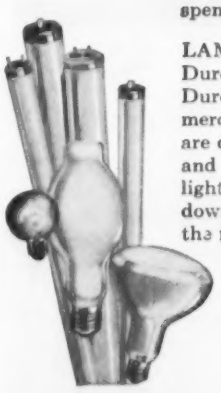

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Principal Products Manufactured: _____

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F-7

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UNIT No. 2J—Same as above except without upright and base. For mounting on walls, posts, columns or machines. Wt. 6 lbs.

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PRESENT SIPCO USERS! Order NEW JUMBO size canisters separately. They are interchangeable with your present standard size units.

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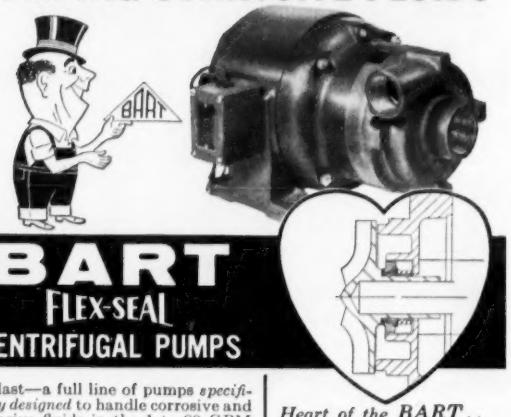
now! greater ***safety*** *and* ***efficiency*** *in*

PUMPING CORROSIVE FLUIDS



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Bart pumps have fewer parts to wear or get out of order. Six models, each in two materials . . . Type 20 Stainless Steel or Hastelloy C . . . cover almost every application.

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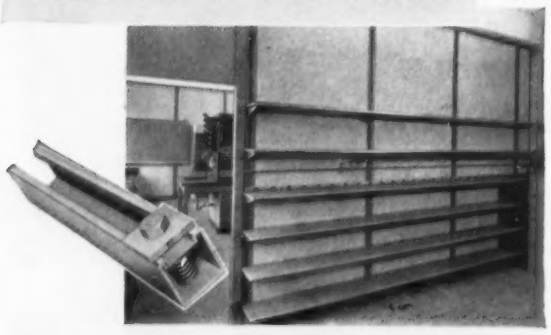
For more details circle NED-37 F7 on enclosed inquiry slip

POWER-STRUT Industrial and Research PARTITIONS



Economical - Flexible - Efficient

Power-Strut partitions are quality built, are low in cost, and can be quickly installed. They also may be dismantled with dispatch for rearrangement of rooms. Walls are designed for the convenient attachment of pipe, conduit, wire mold, blackboards, shelves, cabinets, benches, and almost any kind of apparatus.

A Power-Strut Sales Engineer will be happy to demonstrate with a visual sales kit, or write for Brochure 401-3.

POWER-STRUT, Inc.
14 CLAFLIN STREET, FRAMINGHAM, MASS.
BOSTON NEW YORK PHILADELPHIA NEW ORLEANS CINCINNATI
CHICAGO PITTSBURGH SAN FRANCISCO TORONTO MONTREAL VANCOUVER

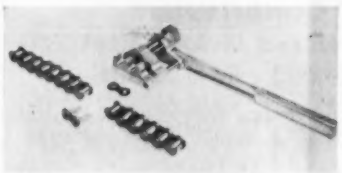
For more details circle NED-38 F7 on enclosed inquiry slip

DRUM SWITCHES for ¼ to 2-hp motors

Three models of drum switches for reversing across-the-line starting of small conveyors, shop tools, door operators and oil burners are furnished in NEMA 1 enclosures for surface or flush mounting. Type IR allows instant reversing of standard single-phase alternating current motors, while type PR models for conventional reversing duty, are convertible between maintained-contact action and butt-wipe, self-cleaning silver alloy contacts. Ratings include ¼-hp for direct-current motors; 1 hp for 115-v single-phase ac motors; 1½ hp for 230-v single-phase ac motors; and 2 hp for 220-550-v two or three-phase ac motors. Made by **Clark Controller Co.**, 1148 E. 152nd St., Cleveland 10, O.

For more details circle NED-39 F7 on enclosed inquiry slip

ROLLER CHAIN DETACHER two sizes for No. 50 and 60 chain

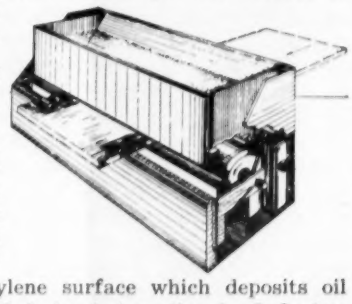


ASA roller chains can be detached quickly on the bench or in the field with this roller chain tool. A complete pin link is detached through the medium of the threaded stud, which exerts pressure evenly on both pins. Chain is placed in the saddle, and nut is tightened. Model CS50 is for No. 50 roller chain, and model CS60, for No. 60 roller chain. Made by **Helix Corp.**, Dept. CS, Crown Point, Ind.

For more details circle NED-40 F7 on enclosed inquiry slip

STRIP STOCK LUBRICATOR for punch press operations

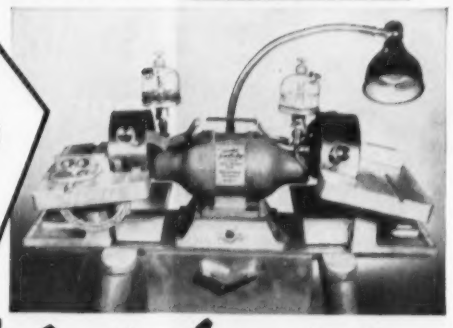
Continuous coil stock and random length pieces can be lubricated prior to punch press operations by this strip stock lubricator. It wipes the surface of the stock free of foreign materials and places a thin, uniform film of lubricant on either or both sides. Machine has upper and lower oil reservoirs, two floating felt wipers and a ball bearing mounted roller with polyethylene surface which deposits oil on the lower side. Made by **Automation for Industry**, Dept. NED, Port Crane, N. Y.



For more details circle NED-41 F7 on enclosed inquiry slip

20° COOLER "It's in the Groove!"

NO DUST
NO SPLASH
NO HEAT
NO FOG



NEW *Coolie-Grinderlap* Pat. Pend. T.M.

"Magic" Thru Wheel Coolant Drip Feed gives cool grinding for carbide tools and carbide drills.

SAVES DIAMOND • SAVES TOOLS • SAVES MONEY!

- 1/3 HP—3450 RPM reversible 110 v. single-phase cap. motor.
- 325 Scr. Diamond Re-Lod-Able, Lifetime 6 in. Wheel.
- 60 grit Vitrified 6 inch Grinding Wheel. • Weight 77 lbs.
- Re-Set-Able Diamond Dresser and 4K Diamond Lap-Loder Paste.

Complete Price FOB So. Haven — Only $295.00 plus tax

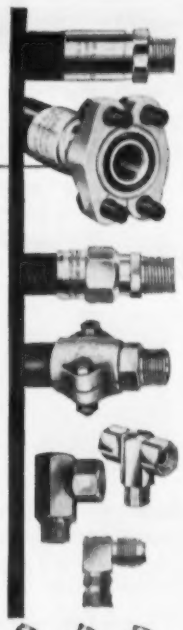
To Potential Buyers: Free Demonstration and instructions at your plant if requested on your letterhead.

• *Performance Proved — Satisfaction Guaranteed! A ten-year development . . . nothing else like it!*

DIAMOND TOOL COMPANY (Not Incorporated)
Sheldon M. Booth, President
Telephone 964 • South Haven, Michigan • U. S. A.

For more details circle NED-42 F7 on enclosed inquiry slip

Know that you have the Right Hose Assembly always — *Specify* **ANCHOR!**



Whether it is for high, medium or low pressure, there's an Anchor Hose Assembly that's been designed for the particular type of job you have in mind! Anchor Couplings are engineered for long, dependable service without danger of leaks or blow-offs and with a substantial margin of safety over specified operating pressure ranges.

Andy Anchor says: The catalogs listed below offer you a wealth of engineering data and the complete construction details of Anchor Hose Assemblies, Couplings and Fittings. Send for them!

Catalog No. 100 — Anchor Pressed-On Hose Assemblies

Catalog No. 202 — Anchor Adapter Unions, Pipe Fittings and the new SAE Boss Type Fittings—see SAE standards, 1957 SAE Handbook.

Catalog No. 301 — Anchor Clamp Type and Reusable Hose Couplings.

Catalog No. 401 — Anchor Flanco 4-Bolt Split-Flange Couplings—conforming to SAE standards, 1957 SAE Handbook.

ANCHOR COUPLING CO. INC.
315 North Fourth Street, Libertyville, Illinois
Branch Offices: Dallas, Tex., Plymouth, Mich.

For more details circle NED-43 F7 on enclosed inquiry slip

The instrument man's "Man Friday"

You'll never run out of uses for this high-fidelity Foxboro Portable Potentiometer. Use it to check overall accuracy of your temperature instruments and thermocouples; as a substitute temperature instrument during emergencies, for exploring temperatures not requiring continuous measurement.

Accurate to ¼ of 1% of scale. Extra-long (17") scale for close, accurate reading and *vernier dial* for precise balancing. Weighs only 11¼ lbs. Rugged metal case-and-cover. Write for details. **The Foxboro Company, 666 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO REG. U. S. PAT. OFF. PORTABLE POTENTIOMETERS

For more details circle NED-44 F7 on enclosed inquiry slip

ADAMS creates a Cyclone to give you Drier Compressed Air

The Adams Aftercooler and Cyclone Separator are a perfect team. The highly efficient aftercooler condenses more moisture . . . the separator's unique design creates a cyclone to remove more of the condensation.

Write today for all the facts . . . Get your copy of Bulletin 711.

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

For more details circle NED-45 F7 on enclosed inquiry slip

Weltronic® ELECTRONIC ADJUSTABLE SPEED DC DRIVE

GIVES 50 TO 1 SPEED RANGE-
1/2 OF 1% REGULATION

- full motor torque over the complete range
- JIC–NEMAXII enclosure
- available in 5 sizes–¾ through 3 h.p.

Boost Production—Reduce Automation Costs

This is particularly true if you are engaged in any one of the following industries:—Machine Tool, Metalworking, Rubber, Chemical, Baking, or Papermaking.

The Drive Motor is also the Tachometer

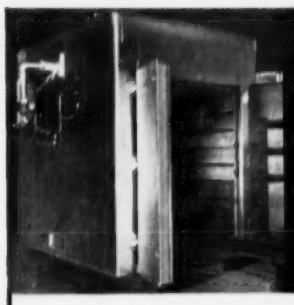
Write for Descriptive Literature

WELTRONIC COMPANY

19500 W. 8 MILE ROAD • DETROIT 19, MICHIGAN

For more details circle NED-46 F7 on enclosed inquiry slip

NOW! A TRULY VERSATILE STANDARD KILN TYPE OVEN



FOR
- **BAKING**
- **HEATING**
- **DRYING**
- **CURING**

MOCO has incorporated many custom, money-saving features into this standard oven — using gas fuels or electricity.

They offer *maximum temperature uniformity* and *complete safety equipment* at amazingly low initial cost. You can depend fully on a MOCO-engineered product!

MORE INFORMATION?

If you are in the market for a standard oven, be sure and send for this informative brochure.

MICHIGAN OVEN COMPANY

419 Brainard, Detroit 1, Mich.

For more details circle NED-47 F7 on enclosed inquiry slip

VERSATROL Electrical Controller

CUSTOM-BUILT: Indicating meter-relay "heart" and control circuit designed for your application. Dial can read RPM, PERCENT LOAD, FOOT CANDLES, ETC.

VERSATILE: Operates directly from any electrical signal. Adjustable control point. Meter-relays interchangeable. 5 ampere load switch. Optional rating to 40 amperes.

SENSITIVE: Meter-relay determines sensitivity. 0/5 microamperes and 0/5 millivolts up, DC or AC.

ACCURATE: Indicating accuracy to 1%. Trip point, repeatability, control, to 0.25%.

SIMPLE: No vacuum tubes. Few moving parts. No mounting or levelling. Uses standard 115/230 line voltage.

ECONOMICAL: $99 to $240.50.

Ask for Bulletin 106.

ASSEMBLY PRODUCTS, INC.

Chesterland 61, Ohio, Phone (Cleveland, O.) HAmilton 3-4436
Booth 43, IRE Military Electronics Show, June 17-19, Washington, D. C.

For more details circle NED-48 F7 on enclosed inquiry slip

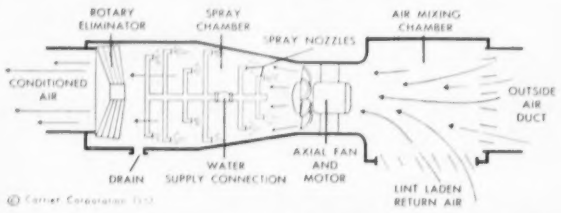
SHELF STORAGE UNITS
shelves adjust without tools

A sturdy steel lug at each shelf corner allows quick, easy adjustment of shelves in this Flexi-Bilt storage case. When shelf is slipped into place, lugs lock themselves into slots on the uprights and in back of the case. Shelf is removed by raising it slightly and pulling forward. Slots are spaced 1½ in. apart. Boltless dividers fit into slots spaced 1 in. apart on the shelves to form bins of required width. Bin fronts and compartmented drawers can be added when needed. All parts are heavy gage steel, and shelves have full-length label holders welded to their faces. Overall dimensions are 84 x 36½ x 12½ in. Made by **Republic Steel Corp.**, Berger Div., 1000 Belden Ave. N. E., Canton 5, O.

For more details circle NED-49 F7 on enclosed inquiry slip

INDUSTRIAL AIR CONDITIONER
spray type offered in four sizes with 10,000-30,000 cfm capacities

"Spin-dry" principle to remove water droplets, lint and other foreign matter is employed by the Rotaspray Weathermaker spray type industrial air conditioner. Unit operates at air velocities up to 2400 fpm and resembles a cylinder slightly thickened at one end. Airborne particles are scrubbed from the air by a "hurricane" of water droplets. Finer particles are collected by the eliminator and flushed from its surface by water removed from air stream. Because of eliminator's rotating motion, soaked particles are constantly thrown off by centrifugal force. All lint and particles are carried in water stream to separation tank.



Conditioner is made in four sizes with capacities ranging from 10,000 to 30,000 cfm. Overall dimensions range from 3 to 6 ft in diameter and from 16 to 23 ft in length. The lightweight units can be suspended from a ceiling, installed outside on a roof, or hung from a wall. Two controls are merely set for room temperature and humidity desired. Made by **Carrier Corp.**, 300-A S. Geddes St., Syracuse 1, N. Y.

For more details circle NED-50 F7 on enclosed inquiry slip

MOUNTING APPARATUS IN CAST BOXES?

. . . consult HOPE first for the largest selection of types and sizes in the industry!

Thousands of standard sized electrical boxes by HOPE are used for junctions, terminals, panels, electrical and electronic apparatus mounting—with flanged, unflanged or hinged covers.

GALVANIZED CAST IRON: Weatherproof (NEMA III, IV, and V); Dustight (NEMA IX); J. I. C. (NEMA XII); Explosion Resisting (NEMA VII)

Also available in cast aluminum, brass and bronze

Conduit entrances can be bossed and 5-thread tapped, tapped only, or drilled. Special gaskets, mounting lugs, interior mounting buttons tapped blind—any or all to your specifications.

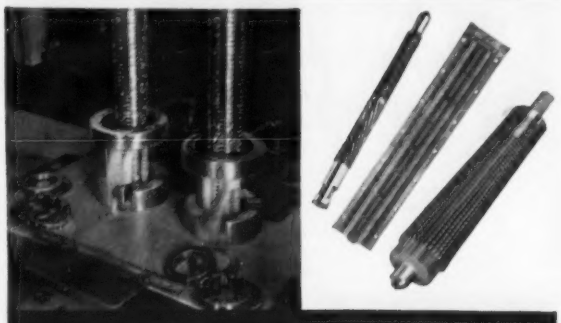
WRITE FOR COMPLETE CATALOG

HOPE

HOPE ELECTRICAL PRODUCTS CO.

51 Long Avenue, Hillside, N. J. Elizabeth 4-7837

For more details circle NED-51 F7 on enclosed inquiry slip



TOUGHEST TESTS PROVE BROACH LIFE

The toughest proving ground in industry for Continental broaches is the rugged day-in, day-out production in Ex-Cell-O plants. Continental experience will make a big difference in *your* broaching operations.

Send your broaching problems to Continental. Top broaching experts will work them out, putting proven broaching methods to work for you. No obligation, of course.

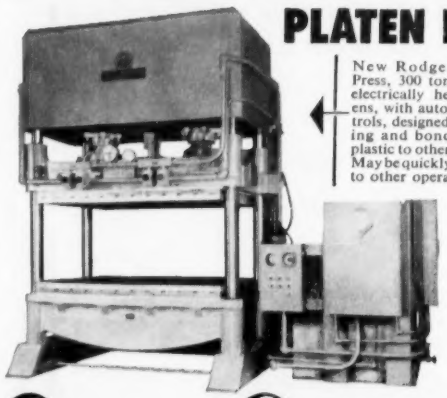
57-54

CTW **Continental TOOL WORKS**

Division of Ex-Cell-O Corporation
Detroit 32, Michigan

For more details circle NED-52 F7 on enclosed inquiry slip

New RODGERS "Double Duty" PLATEN PRESS



New Rodgers Platen Press, 300 tons, 72"x48" electrically heated platens, with automatic controls, designed for molding and bonding sheet plastic to other materials. May be quickly converted to other operations.

1 forms or draws metals **2 molds and bonds plastics in ONE operating cycle**

Are you processing both metals and plastics? This newest Rodgers Platen Press is quickly converted for metal or plastic operations—a "double feature" advantage that means equipment savings for you.

Heated platens, which mold sheet plastic *and* simultaneously bond it to metal, rubber or other materials, are interchangeable with metal forming or drawing dies. By using pneumatic die cushions, the press can be converted for deep drawing of metals.

Rodgers "Double Duty" Presses are available in 10 to 500-ton capacities and with platen sizes from 12"x12" to 72"x48". Precision control equipment automatically governs platen movement, pressure, time cycles and temperature. Operator safety is assured by design.

MANUFACTURERS. Let us send you catalog describing Rodgers "Blue Ribbon" Presses for plastic and rubber molding, metal drawing and metal forming.

Rodgers Hydraulic Inc.

7425 Walker St. • Minneapolis 16, Minn.

For more details circle NED-53 F7 on enclosed inquiry slip

the Hoffman **"MAGNAFLO" SEPARATOR** removes up to 90% of ferrous solids

Ferrous particles are removed from cutting oils, water-soluble coolants and other industrial oils by the magnetic attraction of the powerful magnets in the Hoffman "Magnaflo" separator unit. All coolant passing through the unit is continuously exposed to the fully immersed magnets. A high degree of clarity results. Sludge is discharged in near-dry condition, ready for easy disposal.

The "Magnaflo" functions at flow rates from 10 to 1,000 gpm. Sludge removal feature is built in and fully automatic. Operates without attention; requires practically no maintenance, and is solidly built for lasting service. Detailed technical information and specifications are yours when you write for free bulletin A-860, to:—

INDUSTRIAL FILTRATION DIVISION
U.S.HOFFMAN MACHINERY CORP.
Dept. NED, 103 Fourth Avenue, New York 3, N. Y.

For more details circle NED-54 F7 on enclosed inquiry slip

New Beryllium Copper ROLLPIN

Now . . . extend the proved advantages of Rollpin to a wide variety of applications where resistance to corrosion, good electrical properties and nonsparking or nonmagnetic characteristics are required.

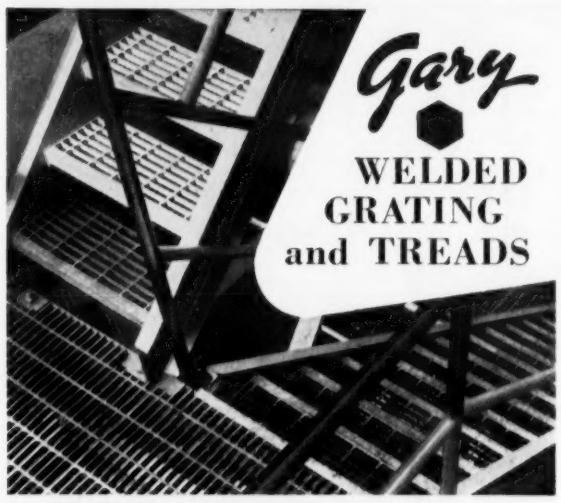
Use it as you use carbon steel Rollpins—to replace taper pins, straight pins and set screws; to serve as a rivet, dowel, hinge pin or stop pin—to cut production costs by eliminating special machining, tapping, and the need for hole reaming or precision tolerances. Driven into a hole drilled to normal production standards, Rollpin locks securely in place, yet can be readily drifted out and reused whenever necessary. Beryllium Copper Rollpins are available from .062"-diameter to .250".

For all the information you need, write Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, New Jersey, Dept. R36-637.

ROLLPIN TRADEMARK

ESNA ELASTIC STOP NUT CORPORATION OF AMERICA

▲ For more details circle NED-55 F7 on enclosed inquiry slip ▲



Gary WELDED GRATING and TREADS

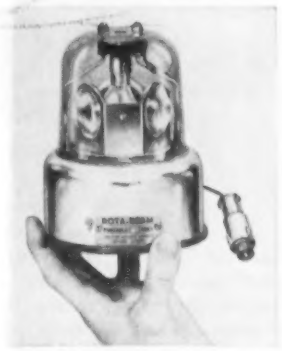
- **TAILOR MADE**—for most economical installation.
- **RIGID STRENGTH**—sturdy resistance-welded construction.
- **LIGHT WEIGHT**—for greater load bearing capacity.
- **SELF-CLEANING**—for reduced maintenance costs.
- **OPEN CONSTRUCTION**—gives maximum ventilation and illumination.

Get all the facts. Write for Bulletin N-67.

ROCKWELL SPRING & AXLE CO.
Standard Steel Spring Division
4017 EAST SEVENTH AVE., GARY, INDIANA

▲ For more details circle NED-56 F7 on enclosed inquiry slip ▲

ROTATING WARNING LIGHT
usable in plants or out-of-doors



Brilliant flashing light is developed by this Rota-Beam warning light. Three magnifying lenses rotate in a full circle around the 50-cp lamp to develop three separate 3000-cp flashing beams. Lamp is shockproof and will operate under all weather conditions. The 6 and 12-v models will plug into cigarette lighter for emergency use on cars, trucks and boats. Magnetized base provides for easy, secure mounting. Permanent types are also available for mobile equipment. The 110-v model is adaptable for wide range of industrial plant and other uses. Made by **Pyle-National Co.**, 1364 N. Kostner Ave., Chicago 51, Ill.

▲ For more details circle NED-58 F7 on enclosed inquiry slip ▲

THREE-WAY HEAT LAMP
has 50, 200 and 250-w selections

Wattage selections of 50, 200 and 250 w are afforded by the Tri-Heat three-way infrared heat lamp which fits standard three-way sockets. Lamp has built-in red filter to reduce glare. Sealed-in reflector concentrates heat in a beam for efficient directional application. Lamp is used on 110 to 125 v and has an average life in excess of 5000 hours. It is offered with mounting clamp and cord set. Made by **Laine Electronics & Mfg. Co.**, 97 Industrial Ave., Little Ferry, N. J.

▲ For more details circle NED-59 F7 on enclosed inquiry slip ▲

TOOL COOLING SYSTEM
for use on metalworking machines

Finely atomized particles of coolant are directed to the point of cutting by the Spray-cooler, a portable cooling system for installation on various metalworking machines. Rapid removal of heat is said to keep tools sharp longer, produce fine finishes and make high operating speeds possible. It operates on 50 to 125-psi plant compressed air. Coolant is siphoned from the 1¼-gal tank for mixing with air. This quantity of coolant lasts up to 16 hours. Made by **Triple-E Engineering Co.**, 4404 21st St., Racine, Wis.

▲ For more details circle NED-60 F7 on enclosed inquiry slip ▲

WEBB TOWVEYOR*
for FASTER, SAFER & EASIER MATERIALS HANDLING

FASTER travel from loading to unloading stations—trucks are delivered to proper destination without wasted traveling time.

EASIER handling—trucks engage Towveyor chain by lowering tow pin and are disengaged at any point by raising of tow pin.

SAFER floors—Towveyor eliminates overhead chains and supports and employees can safely walk or truck over any portion of the system.

Cut your costs with a Towveyor system that will efficiently speed up your materials handling.

*Towveyor is a registered trademark identifying floor truck conveyors patented, manufactured and installed by the Jervis B. Webb Company.

JERVIS B. WEBB CO.
Conveyor Engineers and Manufacturers
8921 ALPINE AVE. • DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-61 F7 on enclosed inquiry slip ▲

NEW MYSTIK® ALUMINUM FOIL TAPE

solves problem of "BLISTERING" HEAT!

Plated surfaces blistered badly every time they welded chromed parts at a Chicago auto repair shop. Then the local MIT* man provided the answer—new Mystik aluminum foil tape that stays stuck even in 550°F heat. As pictured above, strips of tape are applied to the plated surfaces on each side of the fracture. They prevent blister by reflecting up to 65% of the heat of the arc while shielding surfaces against molten weld spatter.

FOIL-SILICONE TAPE HAS HUNDREDS OF USES!

Guarding surfaces against heat is just one application of hundreds. This Mystik Tape protects, seals, holds and electrically insulates at temperatures as low as 110° below zero, as high as 550°F.

For more information about amazing Mystik aluminum foil tape, mail the coupon below. Or phone your nearby MIT* man. He's listed under "Pressure Sensitive Tapes" in the classified section of your phone book.

***MYSTIK INDUSTRIAL TAPES**

MIT
MYSTIK ADHESIVE PRODUCTS, Inc. NED-67
2535 North Kildare Avenue, Chicago 39, Illinois

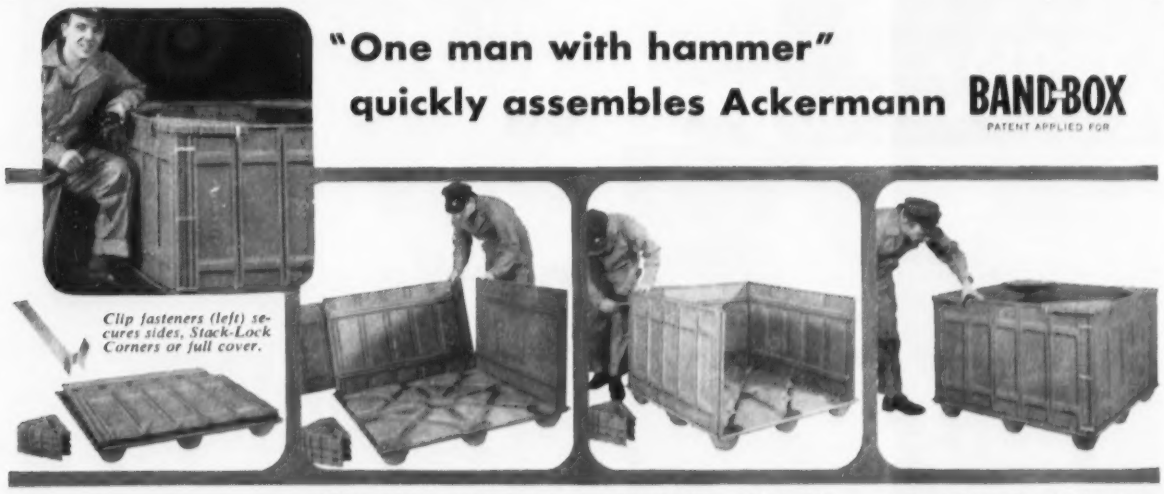
*Please send samples and full information about new Mystik Aluminum Foil Tape.

Name
Position
Company
Address
City Zone State

▲ For more details circle NED-62 F7 on enclosed inquiry slip ▲

"One man with hammer" quickly assembles Ackermann BAND-BOX

PATENT APPLIED FOR



Clip fasteners (left) secures sides, Stack-Lock Corners or full cover.

1. *Band-Box components nest on space-saving pallet.*
2. *Two sides go into place in first assembly step.*
3. *Third side is added. Clip fastener holds sides securely.*
4. *Stack-Lock Corners fasten to sides, completing assembly.*

Here's the ideal solution to shipping and storage problems. It's the Ackermann Band-Box, a collapsible, steel shipping container that assembles with clips quickly, positively—*without rushing!*

Stack it—it's self-palletizing. *Ship it*—it's strong, rugged. *Store it*—it's painted, bonderized, available with full cover. Can be knocked down quickly and parts nested for fast return. For full details on the Band-Box (with Stack-Lock Corners, as shown, or full cover), contact Ackermann Manufacturing Company, (Subsidiary of Wheeling Steel Corporation), Wheeling, West Virginia.

IT'S WHEELING STEEL

WHEELING STEEL

▲ For more details circle NED-57 F7 on enclosed inquiry slip ▲

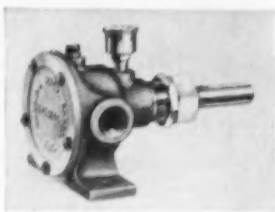
The respirator whose 40 sq. in. double filters provide double protection against pneumoconiosis and silicosis producing dusts. Double comfort in breathing, too! Light, less than 5 ounces—compact—sturdily constructed. U. S. Bureau of Mines approved. Order sample today, $3.00 postpaid.

H. S. COVER, P. O. Box 2508
South Bend 14, Indiana

"Respirators for Industry since 1894"

For more details circle NED-66 F7 on enclosed inquiry slip

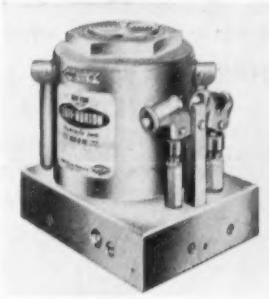
NEOPRENE IMPELLER PUMP
1/2-in. size operates off 1/3-hp motor



This self-priming K1/2 Special neoprene impeller pump in 1/2-in. IPS is designed for operation with a motor as small as 1/3-hp. Made of naval bronze with stainless steel shaft, pump handles all liquids that do not effect bronze or neoprene. Pump is practical for general liquid transfer service in home laundries, sump drainage units, for coolants, air conditioners and refrigeration. Made by **American Machine Products, Inc.**, Dept. N, 172 Centre St., New York 13, N. Y.

For more details circle NED-69 F7 on enclosed inquiry slip

HYDRAULIC JACK
used vertically or horizontally



Oil sealed in the reservoirs of this 100-ton hydraulic jack permits its use in a vertical or horizontal position. It is 12 in. high and has a power lift of 6 1/8 in. Ram is brought into quick contact with the load by actuating both high speed and high lift plungers. Load is lifted easily with only the high lift plunger. Dual release valves in the base can be operated from either side. Base is drilled for an optional pressure gage. Made by **Duff-Norton Co.**, 2710 Preble Ave., Pittsburgh 30, Pa.

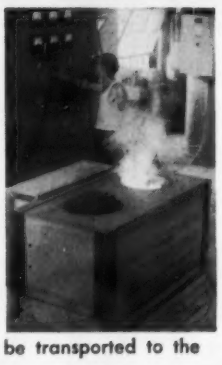
For more details circle NED-70 F7 on enclosed inquiry slip

HAND TRUCK MOTORIZER
electric unit converts hand carts

Any type of wheeled cart or truck that is manually operated can be powered by the Electromite-M1 electric power unit. Mounted on standard semipneumatic punctureproof tires, it incorporates automotive type batteries and a built-in automatic battery charger. Speed is adjusted to an average walk, and forward and reverse are controlled by a hand grip which attaches to cart or truck handle. A knob is used to change torque for the job. Unit will travel about 10 miles on level floors in continuous service without recharging and can pull 1000 lb up ramps. Complete motive power assembly is available, or the two-wheeled power unit is sold separately. Available from **Borne Co.**, 1545 Kellogg St., Covington, Ky.

For more details circle NED-71 F7 on enclosed inquiry slip

Inducto "Push-Out" Furnaces save minutes on every melt



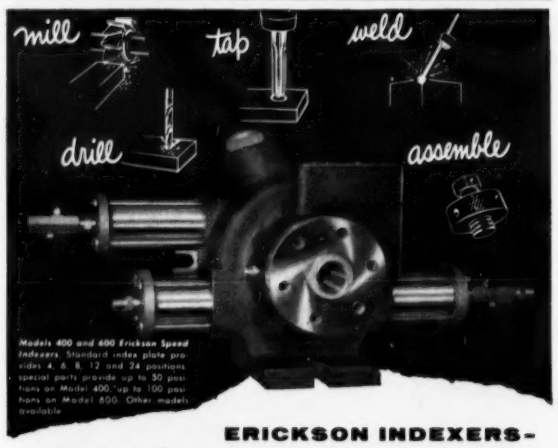
Inducto "Push-Out" furnaces with removable crucibles save valuable minutes in transfer time on every melt . . . meaning extra melts per day . . . thousands of extra castings each year. The moment the charge in one crucible is ready for pouring, the power is immediately transferred to the waiting charge in the other crucible. The crucible of molten metal is raised from the furnace hydraulically so it can easily be transported to the molds.

Inducto "Push-Out" furnaces are short and compact, occupying minimum floor space. The operator's controls are mounted on the furnaces for convenience and accessibility. When teamed with Inducto Precision Control, these furnaces offer the ultimate in production melting.

More detailed information may be obtained by writing for Bulletin 70. Write today.

INDUCTOTHERM CORP.
412 Illinois Ave. • Delanco, N. J.

For more details circle NED-73 F7 on enclosed inquiry slip



ERICKSON INDEXERS—
the economical way to smash automation bottlenecks

Even the most elaborate automatic production line can bog down *expensively* without rapid and accurate automatic parts positioning.

That's where Erickson Indexers really pay off. For you can interlock them into your production set-up with micro switches and solenoid valves. The hardened and ground lock pin operates in conjunction with the actuating mechanism to assure *positive positioning and angular accuracy within 2 minutes of a degree.* (Repetitive accuracy is no indication of angular accuracy. Erickson holds repetitive accuracy in low "tenths" of a thousandth.) And Erickson Indexers can maintain this great accuracy because their adjustable, self-contained shock control unit delivers a cushioned rotary load to the mechanism, thereby reducing wear.

Speed to keep lines moving . . . accuracy to reduce rejects . . . long life to cut maintenance and capital investment—all add up to Erickson Indexers, the *economical* way to smash automation bottlenecks.

ERICKSON TOOL COMPANY
2308-6 Hamilton Avenue • Cleveland 14, Ohio

Collet Chucks • Floating Holders • Tap Chucks • Indexers • Tap Holders
Air-Operated Chucks • Expanding Mandrels • Special Holding Fixtures

For more details circle NED-74 F7 on enclosed inquiry slip

Make overhead space contribute to plant earnings

CAPACITIES 1/2 TO 5 TON

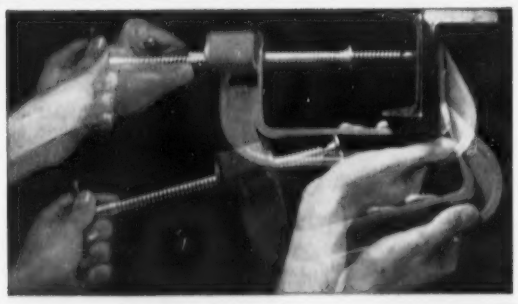
• SINGLE AND TWO SPEED MODELS

METEORS offer real materials handling help in many ways. Read all about their unusual operating advantages in the METEOR CATALOG *sent on request.* Illustrates all details of suspension and construction. Prices included.

CM HOISTS AND CHAIN

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario

For more details circle NED-67 F7 on enclosed inquiry slip



A TOUCH ADJUSTS IT! THREE TONS CAN'T BUDGE IT!

Wilton Rapid Titan C-Clamps can be adjusted with the slightest pressure, and tightened so securely that they'll support over three tons of weight! Wilton's patented wear-proof nut allows the spindle to be engaged or disengaged automatically, and tightened securely over its full length and diameter. No buttons, springs, or triggers. Use Rapid Titan C-Clamps throughout your plant to save time and labor.

UNCONDITIONALLY GUARANTEED FOR THREE YEARS BY WILTON!

ATTACH THIS AD TO YOUR LETTERHEAD FOR FREE DEMONSTRATION OR LITERATURE!

WILTON TOOL
MFG. CO., INC.
SCHILLER PARK, ILLINOIS

NED-6

Sold by Leading Distributors the World Over

For more details circle NED-68 F7 on enclosed inquiry slip

New BUSCHMAN TROJAN "A" Portable Belt Conveyor

• *Faster*
• *Safer*

Rugged ALUMINUM ALLOY BOOM provides easier maneuverability . . . greater versatility!

- Reversible Travel: 12" Belt
- 10', 12', 14', 16', 18' and 20' lengths
- One-man operation . . . on-the-job economy
- Adjustable ultra-lightweight boom folds for easier shipment, storage
- Practical "booster" for gravity systems

WRITE TODAY!

Get cost-cutting details on the economical TROJAN "A" . . . ask for Bulletin #50AA.

PRODUCE MORE FOR LESS — Buschman CONVEYORS

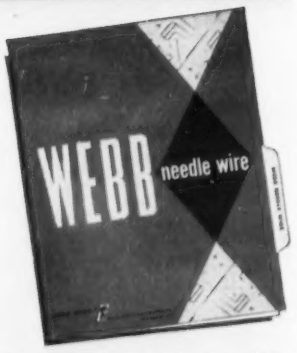
C-338-EWB

THE E. W. BUSCHMAN CO.
4482 Clifton Ave., Cincinnati 32, Ohio

For more details circle NED-72 F7 on enclosed inquiry slip

Get this new data sheet . . .

on WEBB needle wire . . .



• It's loaded with important information on shapes, sizes, tolerances, heat treating and effects of drawing temperature on Webb Needle Wire, a tool steel quality wire drawn from electric furnace rods. This data sheet will be an important addition to your files, just as Webb Wire will be an important addition to your production plans. If you demand quality, consistent uniformity and trouble-free fabrication . . . better call Webb now. It pays to be particular.

Write Today for the New Data Sheet

WEBB WIRE
a division of The Carpenter Steel Company
New Brunswick, N. J.

For more details circle NED-75 F7 on enclosed inquiry slip

EXTERMINATE THE LITTER BUG WITH

BENNETT

WASTE RECEPTACLES

Cleanliness is automatic by conveniently placing Bennett Waste Receptacles to invite their use. Yes, "litter bugging" is eliminated with these easy-to-use, sanitary and economical waste receptacles. Put them to work reducing your cleaning costs and increasing neatness.

Wherever people gather there is a logical location of Bennett Waste Receptacles —America's most complete line including self-closing and drop-in models. Write today for catalog and prices.

WRITE FOR FULLY ILLUSTRATED CATALOG

BENNETT SELF-CLOSING WASTE RECEPTACLES available in 12 models

THE BENNETT MANUFACTURING CO.
ALDEN, N. Y.
Bennett Bilt is Better Bilt

For more details circle NED-76 F7 on enclosed inquiry slip

FREE SAMPLES and APPLICATIONS of INDUSTRIAL FELT*

*made to S.A.E. and Federal Govt. Specifications

See why CONTINENTAL FELT fills hundreds of jobs daily

SEE HOW FELT FITS IN WITH YOUR PRODUCTS

Ask for booklet G

CONTINENTAL FELT COMPANY, INC. 1905
22-26 WEST 15th STREET NEW YORK 11, N. Y.

For more details circle NED-77 F7 on enclosed inquiry slip

WRITE FOR SAMPLE FOLDER TODAY!

new ideas for cushioning

resilient

DUTCH BRAND SPONGE RUBBER

. . . the "stay alive" cushioning, sealing and insulating material that never loses its shock-absorbency and compressibility. Dutch Brand Sponge Rubber stops dust, drafts and rattles . . . muffles vibrations, acts as a thermal insulator. Natural or neoprene chemically blown, with pressure-sensitive or dry-type adhesives. Get full information . . . write today for the free folder that contains samples, ASTM data and suggested uses!

Johns-Manville DUTCH BRAND PRODUCTS

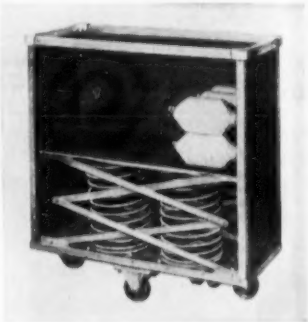
For more details circle NED-78 F7 on enclosed inquiry slip

FACE SHIELDS
plastic frame shapes to any head

Snap-in foam rubber sweatband, unbreakable soft plastic headframe that molds itself to any head shape and adequate space to permit wearing prescription glasses are features of line of face shields. Four series are offered with and without reinforced plastic spark deflectors and choice of elastic headband or slide adjustment bands for 6 to 8½ head sizes. All visors are interchangeable and available in 0.02 and 0.04-in. thicknesses, 4, 6 and 8-in. lengths and clear, light and dark green colors. Made by **Pulmosan Safety Equipment Corp.**, Dept. NED, 644 Pacific St., Brooklyn 17, N. Y.

For more details circle NED-79 F7 on enclosed inquiry slip

FLOATING-BOTTOM TRUCK
always keeps contents within reach

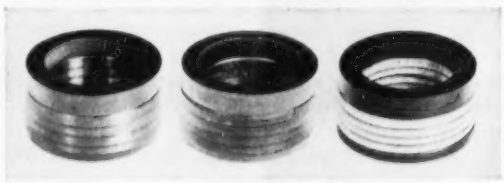


Floating bottom of this materials handling truck depresses as it is loaded and raises as the load is removed, always keeping the contents within easy reach. The constantly level bottom cannot tip or jam when the load is unevenly distributed. Truck is made of smooth vulcanized fiber and is resistant to impacts, abrasion, greases and oils. Floating bottom action is available in standard size boxes and coaster trucks. Made by **Spaulding Fibre Co.**, Dept. N, 310 Wheeler St., Tonawanda, N. Y.

For more details circle NED-80 F7 on enclosed inquiry slip

V-PACKINGS
all have standard stack heights

Uniform stack heights for three types of V-packings simplifies the design of packing glands. As a result, homogeneous rubber (left), fabricated rubber



(center) and leather (right) packings will fit in the same gland space. They are interchangeable should operating conditions dictate a change. Made by **E. F. Houghton & Co.**, Dept. NED, 303 W. Lehigh Ave., Philadelphia 33, Pa.

For more details circle NED-81 F7 on enclosed inquiry slip

QUICK! CALL THE DELUXE DEALER
WE HAVE A SHELVING PROBLEM

Your shelving problems can't be this preposterous, but if you want to talk about them with an expert, call your Deluxe dealer. He will engineer efficient, flexible shelving installations and supply you with additional shelving racks as fast as you need them!

These features mean lowest cost installation for you

- Rigid, fast erecting bin-type uprights
- Boltless, adjustable shelf brackets
- Snap-in dividers for quick flexibility
- Factory-reinforced shelves
- Coped shelf corners for more capacity

Call your local dealer or write for "Shelving Reference Manual"

DELUXE METAL FURNITURE CO.
WARREN, PA.
A Division of Royal Metal Mfg. Co.

DELUXE

For more details circle NED-82 F7 on enclosed inquiry slip

NOW... A PIPE JOINT COMPOUND FOR DESTRUCTIVE FLUIDS, GASES and TOXICS

For pipe joints, plugs, all types of threaded connections, screwed fittings and flanges—alloys such as stainless steel and monel, non-ferrous metals such as aluminum, also plastics, synthetic rubber and carbon.

Eliminate dangerous leakers and loss of expensive fluids with "John Crane" Chemlon® Pipe Joint Compound. You'll find it the safe and sure answer to your most difficult pipe sealing problems.

Chemlon Pipe Joint Compound is recommended for the most destructive services encountered in industry. Compounded from a chemically-inert DuPont Teflon base, it permits positive handling of practically all known acids, corrosives, alkalis, solvents, biologicals, gases and toxics at temperatures to 212°F. It is without substitute for severe or hazardous conditions.

Order a 2-oz. trial jar. Request Bulletin PLS 515 for further details.

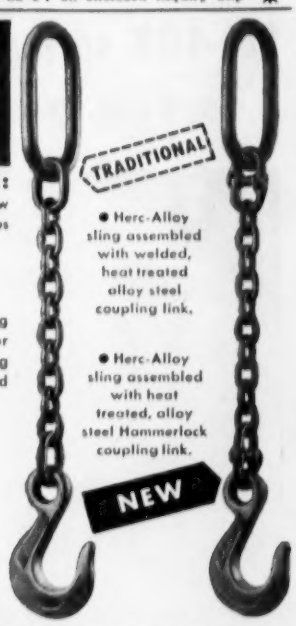
John Crane — CRANE PACKING COMPANY
6411 Oakton St., Morton Grove, Ill. • In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

For more details circle NED-83 F7 on enclosed inquiry slip

HERC-ALLOY ... the original alloy steel chain

TO SERVE YOU BETTER: Herc-Alloy chain assemblies can now be ordered with either of two types of coupling links.

Hammerlok® the "do-it-yourself" reusable coupling link that enables you to assemble or rebuild your own Herc-Alloy sling chains with all components furnished by your local distributor.



• Herc-Alloy sling assembled with welded, heat treated alloy steel coupling link.

• Herc-Alloy sling assembled with heat treated, alloy steel Hammerlock coupling link.

CALL YOUR CM CHAIN DISTRIBUTOR or write for helpful literature on alloy chain assembly, care, use and inspection.

CM HOISTS AND CHAIN

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
Regional Offices: NEW YORK • CHICAGO • CLEVELAND
In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario

For more details circle NED-84 F7 on enclosed inquiry slip

PUMP CORROSIVE AND OTHER LIQUIDS

SAFE

FAST AND CONVENIENT

FOR CARBOYS, BARRELS AND DRUMS
BY HAND Type A 2-3 gpm
BY FOOT Type FH 3-4 gpm

A smooth flow of liquid starts and stops quickly. All parts in contact with liquid are corrosive resistant. No dangerous pressures. Relief valve.

FREE! Write for big 64 page illustrated catalog describing and pricing hundreds of safety products.

ORDER TODAY
ORDERS SHIPPED ON OPEN ACCOUNT

With lead tube for sulphuric, hydrochloric, hydrofluoric, etc.
HAND PUMP TYPE A $18.05
FOOT PUMP TYPE FH $20.55

With Saran flexible tube for nitric, phosphoric, acetic, etc.
HAND PUMP TYPE A $19.70
FOOT PUMP TYPE FH $22.20

GENERAL SCIENTIFIC EQUIPMENT CO.
GENERAL SAFETY EQUIPMENT
7518 LIMEKILN PIKE, PHILADELPHIA 50, PENNA.
SAFETY EQUIPMENT FOR EVERY HAZARD

For more details circle NED-85 F7 on enclosed inquiry slip

You and KESTER Can Lick Any Soldering Problem!

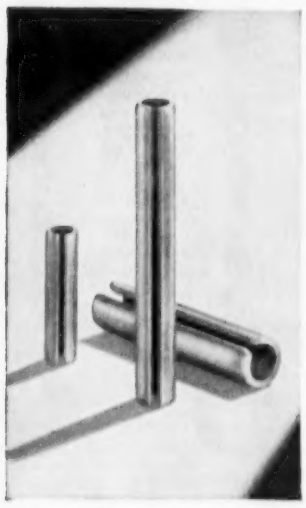
Kester, with more than fifty years experience in solving every conceivable type of soldering problem, is the only company to turn to for a fast economical solution. No problem is too large or too small and what's more, there's no obligation involved for this engineering service.

KESTER SOLDER

COMPANY 4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

For more details circle NED-86 F7 on enclosed inquiry slip

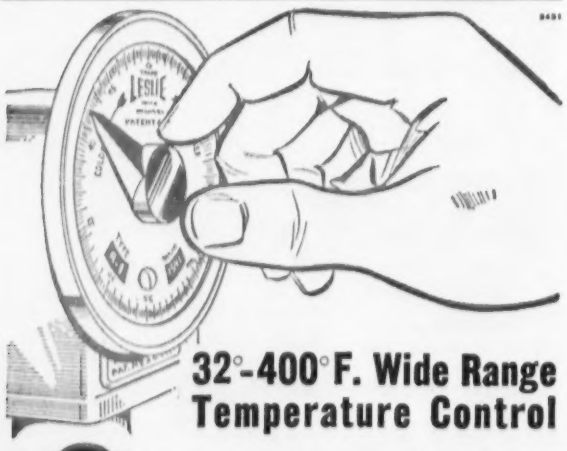
SEL-LOK spring pins eliminate tapping, peening, milling



SEL-LOK spring pins are installed in plain drilled holes in one simple driving operation. They lock by spring action. Use them as axles, keys, hinge pins, cotter pins, pivot or stop pins. A SEL-LOK stays put, once you've installed it. It resists vibration and shock. It can be removed easily with a drift pin or punch, and reused again and again. These versatile pins are stocked by your authorized industrial distributor in sizes ranging from 1/16 by 3/16 to 1/2 by 5 in., in heat treated alloy or corrosion resistant steel. Write us for Bulletin 2014 and samples. Sel-Lok Spring Pin Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
SEL-LOK SPRING PIN DIVISION SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-87 F7 on enclosed inquiry slip



32°-400°F. Wide Range Temperature Control

For Heating or Cooling Service — with LESLIE Temperature Pilot

- Selective fingertip setting over full range
- Instrument control accuracy
- Rugged, shock proof operating parts
- Corrosion-protected, bi-metallic element
- 300°-600° F. range also available

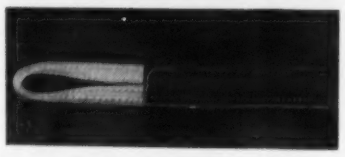
Send for Bulletin 5303

LESLIE TEMPERATURE PILOTS
LESLIE CO., 227 Grant Avenue, Lyndhurst, N. J.

Regulators Since 1900—"Still Far Ahead in Quality and Performance"

For more details circle NED-88 F7 on enclosed inquiry slip

NYLON WEBBING SLINGS
working loads from 1050-13,500 lb

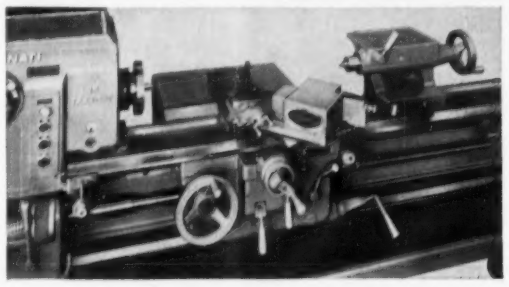


Neoprene buffer slings, one of two new groups of Liftex nylon webbing slings, are constructed with nylon cored buffer strip 1¾ in. wide and 0.125-in. thick. These slings assure firm grip on highly polished shafts and axle loads. They resist abrasion, recover quickly from shock loads and have low moisture absorption. Available in reversed-eye models in 2, 3½ and 6-in. widths, slings have safe working load ranges from 5000 to 13,500 lb. Second group consists of Liftex nylon slings which will safely support 2800 lb in basket hitch, and 1050 lb in choker hitch arrangement. They are available in eye-and-eye, endless and reversed eye models, all 1¾ in. wide. No rivets or metal are used in either group and safety factor is 5:1. Made by **Caldwell Co.**, Dept. NED, 1123 Fourth Ave., Rockford, Ill.

For more details circle NED-89 F7 on enclosed inquiry slip

TRACER LATHE
tracer mechanism can be locked out to permit use as standard lathe

Automatic turning of multiple diameter shafts and contoured work pieces is provided by the Hydraguide tracer lathe which can also be used as a standard



lathe. Tracer mechanism is put into operation by a pushbutton, or locked out by retracting the tracer slide and pushing a single button. Mechanism need not be removed from the lathe. All tracer controls, template, tracer finger and tools are on the operating side of the lathe.

Tracer will automatically turn multiple diameter shafts, shoulders, tapers, necks and contours and can be employed for many boring and facing operations. Lathes are built in 15 and 18-in. swing sizes, center distances from 30 to 114 in., 5-hp motor and standard clutch drive.

Machine has 12 spindle speeds from 37 to 1470 rpm, 48 thread and feed changes and thread range of 1½ to 92 threads per inch. Tracer mechanism is also available for 15 and 18-in. model LE tray-top engine and toolroom lathes now in service. Made by **Cincinnati Lathe & Tool Co.**, 3200 Disney St., Cincinnati 9, O.

For more details circle NED-90 F7 on enclosed inquiry slip

JOY BELT CONVEYOR IDLER

eliminates ruptured duck

If your conveyor belting has been breaking and wearing out just at the gap between idler rolls . . . like this . . .

we have a solution—a *new* type of idler called the Joy Limberoller . . . a flexible steel cable suspended between two bearings. Neoprene discs are molded to the cable forming a single roll which turns on its own axis. This idler supports the belt throughout its entire width . . . increases belt life 20% and more. ***Joy Manufacturing Company, Oliver Building, Pittsburgh, Pa.***

WSW L 6662-178

Write for free bulletin 178-54

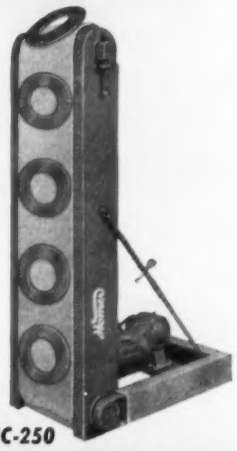
JOY . . . EQUIPMENT FOR ALL INDUSTRY

For more details circle NED-91 F7 on enclosed inquiry slip

HOMER "Space Saver" MAGNETIC CONVEYORS

AUTOMATE PRODUCTION —CUT LABOR COSTS —REDUCE REJECTS *in handling ferrous parts and scrap*

- Automatically transfer parts, feed machines and stack parts in multiple machine operations. Convey on underside of belt for parts turn-over.
- Powerful permanent magnetic assembly securely holds and conveys ferrous parts and scrap up inclines as steep as 90° . . . without belt cleats or buckets. No loss of parts or scrap from belt resilience or bouncing over belt cleats.
- End damage to critical finish of parts as a result of parts riding against belt cleats or jamming in flapper gates.
- Steeper inclines permit close grouping of machinery to save floor space.
- May be loaded at any angle . . . at floor level or any level above floor from other conveyors, chutes or machines.
- Standard and custom models available.



WRITE TODAY FOR BULLETIN MC-250

THE HOMER MANUFACTURING CO., INC.
DEPT. 1-25 LIMA, OHIO

For more details circle NED-92 F7 on enclosed inquiry slip

FREE BOOKLET

every

DESIGN ENGINEER and PURCHASING AGENT
will want a copy of this 20-page booklet

Simplifies your problem of deciding when to specify special motors. Answers these basic questions: (1) What must a motor do? (2) Should a standard or special motor be used? (3) What modifications are needed? (4) Are modifications economical? Includes charts, tables, drawings, specifications, interesting case histories—all the major factors in answering your most searching questions. Write on your company letterhead for your free copy...it will be sent by return mail. Jack & Heintz, Inc., 17629 Broadway, Cleveland 1, Ohio.

JACK & HEINTZ

For more details circle NED-93 F7 on enclosed inquiry slip

NEW! Sensational BEND-EX MODEL B-4

ECONOMICAL! COMPACT!

Bends all metal tubing of steel, aluminum, brass, copper, stainless steel

This compact bench model is not only the fastest, but the most economical bender ever built. Ideal for both mass production and custom quantities. So simple—anyone can operate. Heavy duty construction! Guarantees QUALITY, speed and low cost.

Adaptable to all Bending Requirements

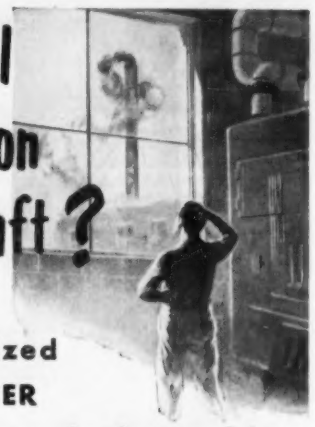
- AIRCRAFT
- AUTOMOTIVE
- PLUMBING
- TOYS
- FURNITURE
- AIR CONDITIONING
- REFRIGERATORS
- METAL CABINETS

WRITE FOR DETAILS

MACHINE TOOL DIVISION OF
PAUL MACHINE TOOL & DIE WORKS
4600 SOUTH KEDZIE DEPT. B-4
CHICAGO 32, ILLINOIS

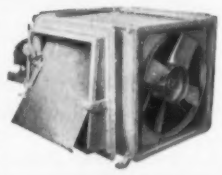
For more details circle NED-94 F7 on enclosed inquiry slip

Are you still depending on Natural Draft?



Install a WING motorized DRAFT INDUCER —and end your draft troubles

No more will you have to worry about the effect of weather conditions on your furnace, about lack of draft due to cold chimney after shutdown, about smoke, soot or gases due to poor draft, or low CO_2 resulting in high fuel bills. The WING Draft Inducer eliminates all these troubles, insuring positive, adequate, uniform draft at all times. *Write for Bulletin.*



L. J. Wing Mfg. Co. 166 Vreeland Mills Rd., Linden, N.J.

For more details circle NED-95 F7 on enclosed inquiry slip

a Rapistan® "transfer" idea

NEW LOW-COST TURN-TABLE MAKES 90° and 180° TRANSFERS IN MINIMUM SPACE

A pre-engineered, mass-produced unit, the Rapistan Powered Turn-Table provides a fast and effective low-cost method of transfer between different conveyor systems. Fits in floor space only 4 feet square. Adjustable from 22" to 38" in height. Handles packages up to 20" square, 18" x 22" or 14" x 24".

For complete construction and application details write today for Turn-Table Bulletin.

Another good handling idea from Rapistan

Rapistan

The RAPIDS-STANDARD CO., Inc.
93 Rapistan Building
Grand Rapids 2, Michigan

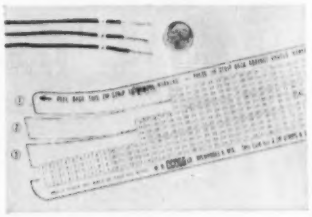
For more details circle NED-96 F7 on enclosed inquiry slip

VAPOR VENT
for underground storage tank

No. 23 underground storage tank vapor vent directs escaping vapors upward to eliminate hazard of combustible vapors accumulating at ground level. Tanks can thus breathe freely, increasing the efficiency of "tight-fill" delivery service. Offered in 1½ and 2-in. sizes, it complies with latest fire prevention regulations for storage of inflammable liquids. Unit has aluminum body, three drain spouts, cover, a 40-mesh brass screen and screw mounting. Made by **OPW Corp.**, Dept. NED, 2735 Colerain Ave., Cincinnati 25, O.

For more details circle NED-98 F7 on enclosed inquiry slip

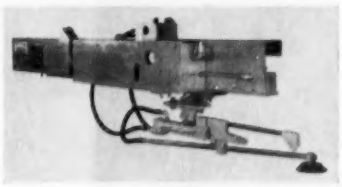
MINIATURE WIRE MARKERS
self-sticking numbers and letters



Wires of 5/32-in. diameter and smaller, miniature electronic components and subminiature circuits can be identified by line of self-sticking 3/16 x ½-in. markers. Numbers and letters are printed four per marker in black on a white background. They are mounted 150 to a dispenser card. Adhesive is pliable from −300 to 300° F. Sixty different stock combinations of letters and numbers, including the alphabet and numbers 0 to 297 are available, along with blank write-on markers. Made by **W. H. Brady Co.**, Dept. NED, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-99 F7 on enclosed inquiry slip

PRESS UNLOADER
vacuum cup handles formed parts



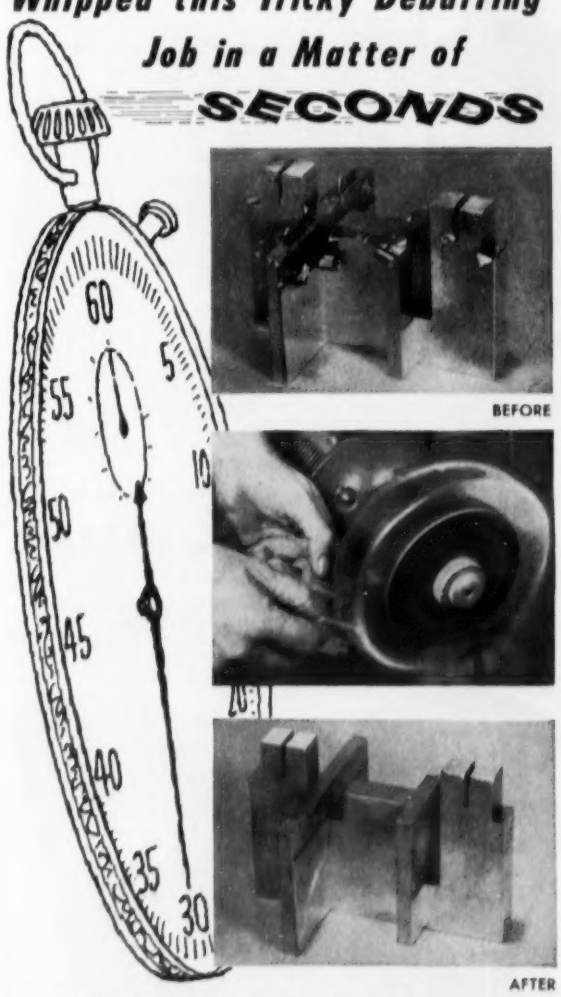
Sheet metal parts as well as plastic moldings are handled automatically by this press unloader. Hand - Vac gripping mechanism uses rubber suction cup and is mounted on standard straight-line unloader. Vacuum lifts and holds part until released. Adjustable rod holding cup is pivot mounted and is advanced and retracted by an air cylinder operating on 45-psi air. Nonmarking vacuum cup conforms to flat and curved surfaces. Unit is synchronized with action of press. Made by **Press Automation Systems, Inc.**, Dept. ND, 25418 Ryan Rd., Centerline, Mich.

For more details circle NED-100 F7 on enclosed inquiry slip

For more details circle NED-101 F7 on enclosed inquiry slip

SAND-O-FLEX

Whipped this Tricky Deburring Job in a Matter of SECONDS



Sand-O-Flex the flexible sanding wheel finishes and polishes in record time. Firm cushioning banks of bristles, backing projecting strips of abrasive cloth force the abrasive into and around intricate surfaces "wiping clean" burrs, flash and tool marks in seconds, without flatting or digging . . . produces satin finishes too. Fresh abrasive strip unwinds from cartridge . . . refill cartridges available. Coarse, medium or fine grits. Attaches to your present power tools or any rotating spindle. There's nothing as fast for contoured or intricate steel, chrome, aluminum, brass, magnesium, wood, plastic surfaces.

merit **merit products inc.**

first choice is always a product of Merit

4023 IRVING PLACE . CULVER CITY, CALIFORNIA

For more details circle NED-102 F7 on enclosed inquiry slip

Do more wiping jobs faster, at less cost . . . use

Kimwipes

INDUSTRIAL WIPERS

KIMWIPES Industrial Wipers eliminate laundry charges, rag collecting, counting and material losses. Kimwipes wipe clean faster, dry or soaked with solvents. You can reuse a Kimwipe and when the job calls for a clean wiper, reach for a clean Kimwipe . . . dispensed pop-up fashion like Kleenex tissues or in handy metal wall dispensers.

Kimberly Clark INDUSTRIAL WIPERS Kimwipes

Kimwipes and Kleenex are trademarks of Kimberly-Clark Corp.

Kimwipes Industrial Wipers are made by the makers of Kleenex tissues • Kimberly-Clark Corporation, Neenah, Wisconsin

For more details circle NED-97 F7 on enclosed inquiry slip

Mail Cart!

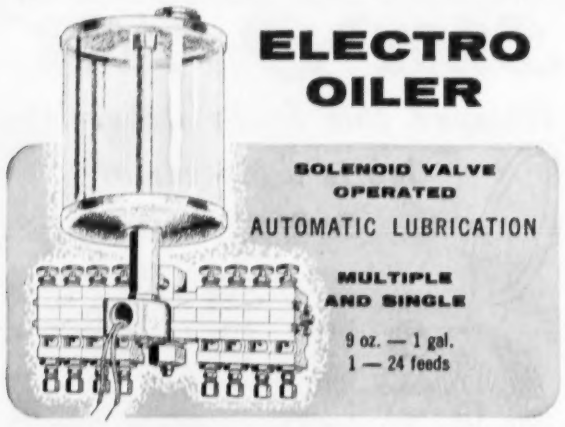
Put efficiency in your mail operation! This double-deck polished aluminum mail cart by Chesley lets your mail department categorize incoming mail for quick, error-free delivery. Lower basket for out-going mail. Both baskets are removable.

Write for free brochure — or, better still — order today!

MODEL LS-2 (Legal Size) 26½" L x 19" W x 29½" H
(File Folders Not Included)
Shipping Weight — 33 lbs. $45.00 F.O.B. DETROIT

CHESLEY INDUSTRIES
Write Dept. H
7731 LYNDON STREET
DETROIT 38, MICHIGAN

For more details circle NED-103 F7 on enclosed inquiry slip



Here is the ideal central lubricator for *machine tools, punch presses, paper-textile-laundry-baking machinery, inaccessible bearings, etc.* Oil is fed by gravity to individually adjustable feed outlets. Solenoid is wired across line of driving motor and oiling starts or stops with motor switch. There is only one reservoir to fill, replacing up to 24 individual oil cups.

write for catalog!

Oil Cups • Dispensers
Oiling Systems • Valves
Oil Gages • Chain Oilers

Oil-Rite
CORPORATION
2364 Waldo Boulevard
Manitowoc, Wisconsin

For more details circle NED-104 F7 on enclosed inquiry slip

Abart precision-built
Speed Reducers

• COMPACT
• TROUBLE-FREE
• SEVENTY FIVE MODELS

ADU UNIT RATIOS: 4 5/6 TO 100 to 1

Abart Speed Reducers are precision built to provide efficient, power conserving speed reduction and are available in a wide range of models to meet your specific requirements.

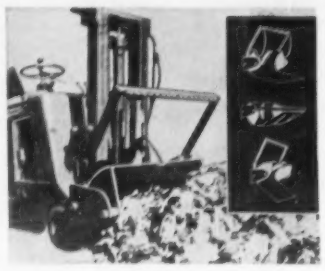
Supplied in worm, spur and combination gears—single or double reduction. Ratios from 4 5/6 up to 10,000 to 1. Ratings from 1/20 to 400 hp. depending on type unit.

Write today for Abart's free data-packed, pocket-size speed reducer catalog.

ABART GEAR and MACHINE CO.
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-105 F7 on enclosed inquiry slip

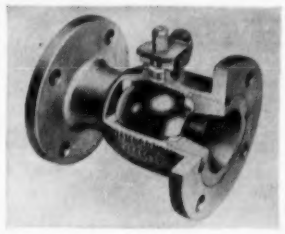
FORK TRUCK CLAMP SCOOP
handles tough, fibrous materials



Efficient handling of tough, fibrous and interlacing materials is possible with this hydraulically operated clamp scoop for use on fork trucks. It is designed without sides on the blade and an overhanging, out-of-the-way clamp bar for effortless entry under the load at floor line. Blade is rotated by its own hydraulic cylinder. It attaches to truck by two detachable self-sealing couplings and two clamp lug bolts. Steel side plates can be attached to the clamp bar for handling granular material. Made by **Materials Transportation Co.**, Dept. 25, 5429 W. Diversey Ave., Chicago 39, Ill.

For more details circle NED-106 F7 on enclosed inquiry slip

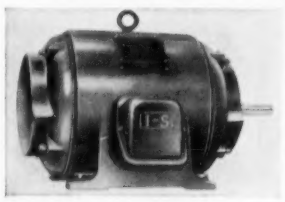
BALL VALVES
3 and 4-in. units added to line



Ball valve line has been broadened with addition of 3 and 4-in. Double Seal units. Unit-body construction eliminates the valve bonnet which was primary cause of leakage. Valves afford full-flow and quarter-turn operation, and have wide application in petroleum, atomic energy, vacuum and food processing industries. They are made in aluminum, bronze, 316 stainless steel and carbon steel. Seats and seals are offered in Buna-N, neoprene, Teflon and synthetic rubbers. Remote controlled operators can be supplied. Made by **Jamesbury Corp.**, Dept. NE, 45 New St., Worcester, Mass.

For more details circle NED-107 F7 on enclosed inquiry slip

INCREMENT-START MOTOR
has built-in two-step starter



Available for service requiring an increment-start motor, Brook four-pole 220-v 1800-rpm motors are offered in sizes from 20 hp and up at the cost of a standard motor. They incorporate a standard two-step three-pole starter with a time delay of 2 to 5 seconds between the two steps. When first set of contacts closes, one-half of winding is energized and rotor begins to turn. At end of time lag, second set of contacts closes and the breakdown torque is identical to across-the-line starting. Need for complex switchgear is eliminated. Made by **Brook Motor Corp.**, 3551 W. Peterson Ave., Chicago 45, Ill.

For more details circle NED-108 F7 on enclosed inquiry slip

HIGH VISIBILITY PLASTIC BARRIER ROPE

IPCO POLY-ROPE®

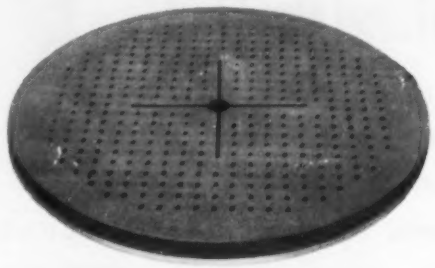
Triple strand rope of polyethylene plastic; two strands of yellow, one of black. Immediately identifies a restricted area in that it carries out the standard CAUTION colors. Tensile strength over 1200 pounds. No sag or stretch. Durability for long service life. Used and recommended by all types of industry.

WRITE FOR BULLETIN NO. 93

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-109 F7 on enclosed inquiry slip

longer disc life, lower grinding costs

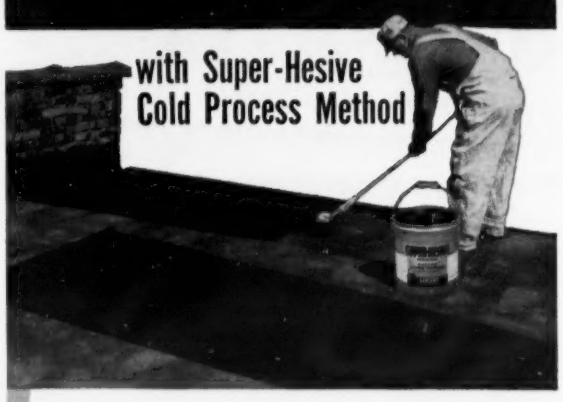


Gardner Abrasive Discs
. . . made to meet your specifications
Send for latest general abrasive catalog.

GARDNER abrasive discs
GARDNER MACHINE COMPANY
462 Gardner St.
Beloit, Wisconsin

For more details circle NED-110 F7 on enclosed inquiry slip

Now! Lay New Roofs that LAST



Your own plant labor can lay a better new roof, repair or recap an old one, with Garland's new SUPER-HESIVE Cold Process Method. And the cost is less than old "hot-mop" roofing methods.

SUPER-HESIVE Roofs *Stay Live and Pliant.* Rubber-reinforced for extra adhesion, SUPER-HESIVE Roofs resist sun's ultra-violet action — give long, long life. Built-in plasticizer prevents softening, blistering, or bubbling from heat — cracking or checking from cold.

EASY-TO-APPLY. No heating, fire hazard, or special equipment with SUPER-HESIVE Cold Process Method.

FREE Roofing Booklet Shows How

Write Dept. D-6

THE GARLAND COMPANY
CLEVELAND 5, OHIO

For more details circle NED-111 F7 on enclosed inquiry slip

HANDLE DRUMS FASTER

DOWNS ONE . . . OR HALF-DOZEN at a time using . . . **Safety Grabs**

Figure the savings when you can pick up three to six drums at a time with a Downs Horizontal Drum Lifter or with a Downs Vertical Drum Grab . . . both grabs are fully automatic, which means more efficient use of manpower. If your handling operation can be met with a grab that will lift only one drum at a time, Downs has a complete line of models to do the job.

Make your work SAFER and EASIER — SAVE MONEY

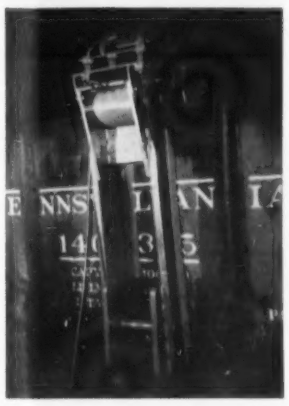
Write for complete details on Drum Handling
Ask for Bulletin 201 - 6

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS 540 W. VERNON AVENUE LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

▲ For more details circle **NED-112 F7** on enclosed inquiry slip ▲

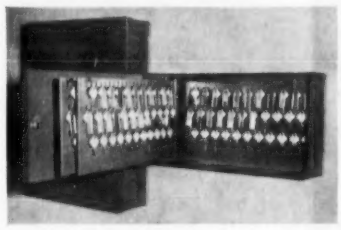
CAR SHAKER
loosens stubborn, frozen materials



Starting a rapid flow of stubborn or frozen materials from openings of railroad hopper cars is induced by this car shaker. Side plates of the device rest on the upper edge of the car when in operating position. Action is produced by an 1800 rpm unbalanced shaft. Eccentric action is carried directly to the car. Drive is by a 10-hp totally enclosed, spring mounted motor. Price is $2250. Made by **Eastern Constructors, Inc.,** 101 Glover St., Poland, O.

▲ For more details circle **NED-115 F7** on enclosed inquiry slip ▲

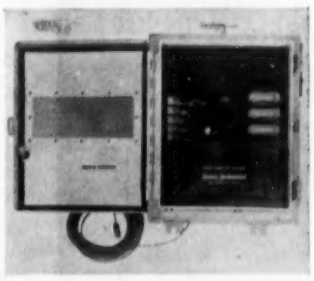
KEY CABINETS
capacities range up to 700



Compact Aladdin Junior and Aladdin Senior key cabinets have a range in capacity from 36 to 700 keys. Extra key hanging capacity is on pin-hinged panels and on angled multi-key hooks. Cabinet doors have a piano type hinge. Made by **Aladdin Hardware Co.,** Box 400, Lenni Mills, Pa.

▲ For more details circle **NED-116 F7** on enclosed inquiry slip ▲

MACHINE OPERATING CONTROL
insures correct material dimensions

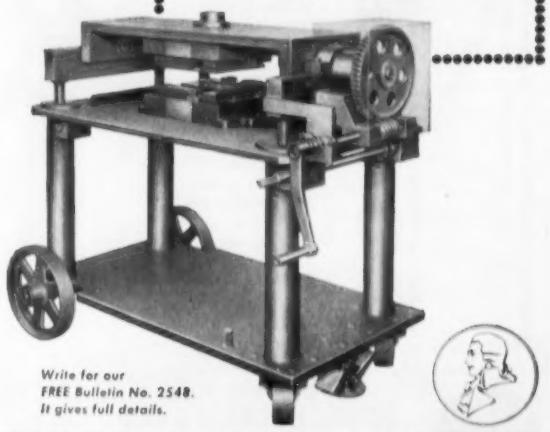


Electronic touch sensors and a photosensor of this packaged shear director combine to control sheet metal, plastic or fiber cutting shear for insuring correct dimensions, straight sides and square corners. Electronic unit is also adaptable for controlling other types of machines and functions. Among applications are counting cuts, measuring productivity, automatically operating machine tools, and overcoming the human factor. Integral totalizing counters record the number of sheets fabricated and the number of actual pieces obtained. "Package" is furnished with all external sensors and photocells, measuring 6 x 16 x 20 in. Made by **Sensory Inc.,** 504-192 Pleasantville Rd., New Vernon, N. J.

▲ For more details circle **NED-117 F7** on enclosed inquiry slip ▲

2548

DIEMAKERS! this **DIE-PART PORTELVATOR**®
(OR AN ENGINEERED VARIANT)
will speed your work and ease your "handling."
Top plate raises and lowers for fitting operations and rotates 360° to give easy access to die.



Write for our FREE Bulletin No. 2548. It gives full details.

THE HAMILTON TOOL COMPANY • 901 HANOVER STREET
HAMILTON • OHIO • U. S. A.

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small, lightweight Air Hoist gives you greater VERSATILITY

Ingersoll-Rand AIR-BLOC combines safety, ruggedness and mobility . . .

The I-R AIR-BLOC gives you versatility you never thought possible for speedy handling of loads up to 1000 pounds. No mechanical brake to fail . . . load can't drop even if air pressure fails. Responsive throttle control and automatic up-down-stop permit extremely accurate handling. There's a size just right for your job.

Portable winch-type Utility Hoists, in a wide range of sizes up to 4000 lbs., are also available from Ingersoll-Rand.

PENDENT THROTTLE

The only complete line of air hoists with convenient "one-hand" control.

- Speeds spotting of loads.
- Provides "Fingertip" control over full range of speeds.

AIR HOISTS up to 24,000 lbs.

8-553

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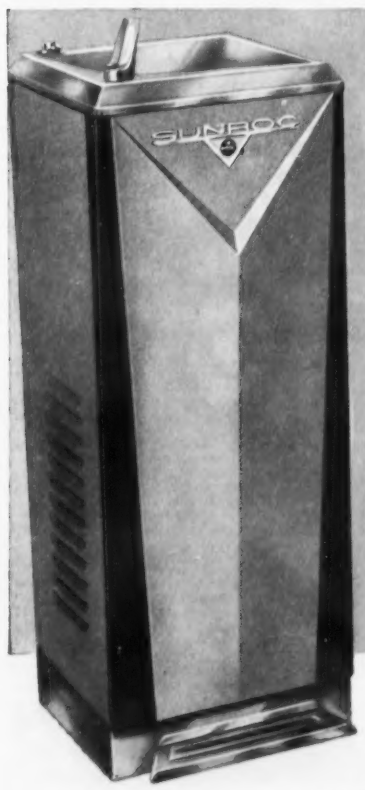

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MOST MODERN OF OFFICE & PLANT COOLERS — YET PRICED THE SAME!

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ADVANCED

1 — Beautiful, Modern Design
2 — New, Improved Cooling Method
3 — Completely Concealed Plumbing . . . and 9 other ADVANCED exclusives for more **endurance with modern convenience**

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Sunroc Corporation—Glen Riddle—Pa.
Send ADVANCED literature, promptly, to:
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WATER COOLERS
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SUNROC CORPORATION
Glen Riddle, Pa.

DIVISIONS & BRANCHES IN ALL MAJOR CITIES *also* TELKEE SYSTEMS

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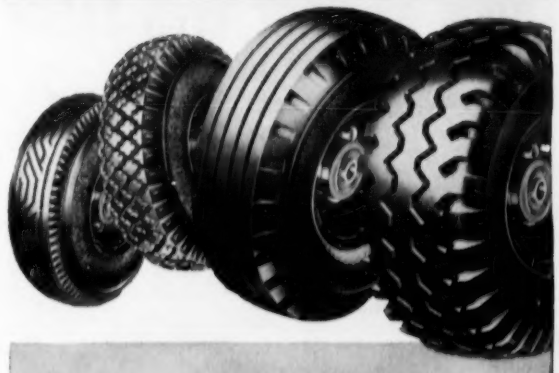
GENERAL



Wide-Base Pneumatics Save You COSTS at Every Turn!

When it comes to saving time, money and labor, General Wide-Base Pneumatics are the best buy you can make. Featuring high flotation for easier rolling, these great work-horse tires cushion equipment and loads, save high cost floors and floor surfaces, give you more load capacity at all speeds. What's more, General's complete line gives you the exact design for every purpose.

Available separately or in assemblies of tires, tubes and wheels. Size O.D. 8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

Rigid

CASTER FORKS

Engineered to carry heavier loads without adding dead weight to equipment, these wide-base caster forks are available in identical pairs in a wide range of sizes.

Swivel

THE GENERAL TIRE

SEND FOR CATALOG, DEPT. 4.

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

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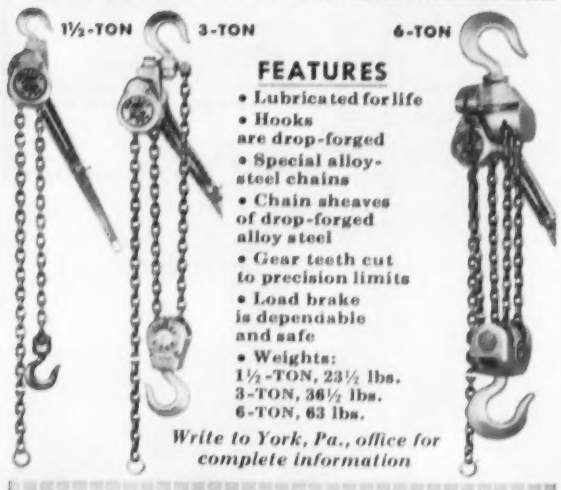
NEW WRIGHT Type "C" Pull-A-Ways

THREE SIZES—1½, 3 and 6-Tons



FEATURES
- Lubricated for life
- Hooks are drop-forged
- Special alloy-steel chains
- Chain sheaves of drop-forged alloy steel
- Gear teeth cut to precision limits
- Load brake is dependable and safe
- Weights: 1½-TON, 23½ lbs. 3-TON, 36½ lbs. 6-TON, 63 lbs.

Write to York, Pa., office for complete information

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-120 F7 on enclosed inquiry slip

How Alcoa Aluminum Fasteners make good awnings even better

Alcoa® Aluminum Fasteners guard your reputation for quality aluminum awnings. They insure against both galvanic and atmospheric corrosion. They provide perfect color match and lasting good looks. Specify Alcoa Fasteners for assembly and installation. Your local Alcoa distributor carries complete stocks for every requirement. He is listed in the Yellow Pages of your telephone directory.

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THE ALCOA HOUR
TELEVISION'S FINEST LIVE DRAMA
ALTERNATE SUNDAY EVENINGS

Your Guide to the Best in Aluminum Value

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Aluminum Company of America
2245-E Alcoa Bldg., Pittsburgh 19, Pa.

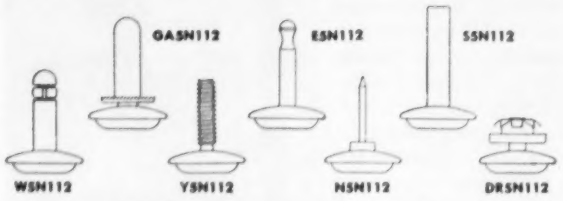
Gentlemen: Please send complete specification data and samples of Alcoa Aluminum Fasteners.

Name _____
Title _____
Company _____
Address _____

For more details circle NED-121 F7 on enclosed inquiry slip

NYLON BASE GLIDES
stems tilt 40 degrees

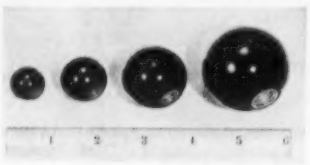
Series of nylon base glides, each with a 1½-in. diameter high gloss nylon base, allows office furniture or equipment to slide easily over floors and floor



coverings. Glides do not squeek, scratch or rust and are most practical where moisture or chemicals cause metal finishes to corrode, resulting in stained floor coverings. Tilting stem has 40-degree range of movement to accommodate splayed legs and to assure base setting flat on floor. Illustration shows grip neck, top bearing, threaded, pivot bearing, nail and umbrella type stems and sockets. Made by **Faultless Caster Corp.**, Dept. NED, 1521 N. Garvin St., Evansville, Ind.

For more details circle NED-122 F7 on enclosed inquiry slip

PLASTIC KNOBS
offered in various threads, colors

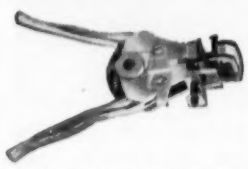


Control levers are expected to be the principal use for this ¾-in. diameter ball plastic knob. It is available in standard phenolic or Bakelite colors with 10-32, ¼-20 brass inserts, but may be obtained in a wide variety of special threads. Line of knobs includes sizes up to 1⅞ in. diameter. Special characteristics can be specified. Made by **Dimco-Gray Co.**, 206 E. Sixth St., Dayton 2, O.

For more details circle NED-123 F7 on enclosed inquiry slip

TEFLON INSULATION STRIPPER
usable on No. 10 to 26 wire sizes

Accurate stripping without marking insulation is possible with this Teflon insulation stripper. Two models accommodate wire sizes from No. 10 to No. 26.



Matched sets of blades are precision drilled for each wire size. Chucking action on insulation guides the conductor through the stripping hole and prevents nicks and scrapes. Optional Short-Stop latch protects wire strands by only partially stripping the individual leads. Insulation "slug" which remains on the wire is easily removed with the fingers just prior to the actual termination. Transparent wire stop adjusts stripping length and allows visibility when placing wire in stripping hole. Made by **Ideal Industries, Inc.**, 1032 Park Ave., Sycamore, Ill.

For more details circle NED-124 F7 on enclosed inquiry slip

APEX DISC GRINDER

BRINGS YOU NEW HIGH SPEED HEAVY PRODUCTION AT LOW INITIAL COST

A popular disc grinder that incorporates features wanted most by industry. Table moves up and down, tilts accurately and squares automatically. Wrap-over guard tilts back to handle work at top of disc. Available in three disc sizes, 15", 16", 20" Specifically engineered to handle heavy production schedules at high speed with extreme accuracy. Economically priced. Write today for complete information and name of distributor nearest you.

Dealer Inquiries Invited

Rankin Bros.
ENGINEERING & SALES, INC.
11090 S. ALAMEDA ST. LYNWOOD, CALIF.

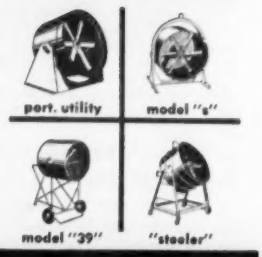
For more details circle NED-125 F7 on enclosed inquiry slip

increase worker efficiency with

Aerovent MANCOOLER FANS

For spot cooling of men and machines, exhausting dust or for general air circulation, these units aid in improving efficiency and production.

Five portable types—cradle, pedestal and 2 or 4 wheeled—each adjustable for 180° discharge. 24" to 48" (portable utility 16" to 36".) 2, 4 or 6 blades. Heavy-duty construction, with welded-steel guards for maximum safety.



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Aerovent FAN CO. INC.
Ash and Blake Sts. Piqua, Ohio

For more details circle NED-126 F7 on enclosed inquiry slip

At Softy, Inc., Franklin Park, Ill., heating finishes with a Binks DUALHEET paint heater reduces the need for thinners. Higher solids content in the finishing enamels permits fast, one-pass spray gun application. Sags and runs are virtually eliminated. Installation is simple...operation is safe.

Ask your distributor about this new Binks DUALHEET paint heater, or write direct to the address below for a copy of Binks DUALHEET Bulletin.

7495

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Open to all...NO TUITION
...covers all phases.

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For more details circle NED-127 F7 on enclosed inquiry slip

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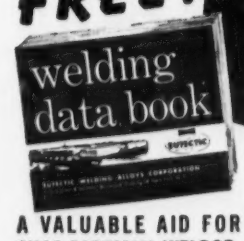

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- Preparation steps for all metals, stressing ways to save dismantling and preheating.
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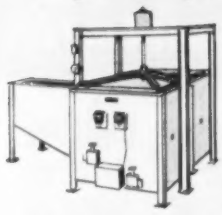
EUTECTIC

For more details circle NED-128 F7 on enclosed inquiry slip

Sta-Warm Engineers Design COMPOUND MELTING TANKS to your job requirements



Typical Sta-Warm compound melting tank engineered for special application.

Name your compound!

Describe your application!

Then let Sta-Warm engineering service provide the know-how to solve your compound melting problem accurately . . . and at lowest production costs.

Investigate for yourself why "The Sta-Warm Method" of applying electric heat to compound melting tanks and conveying and dispensing accessories assures faster, safer, easier production of any compound you use.

Inquire today. No obligation.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

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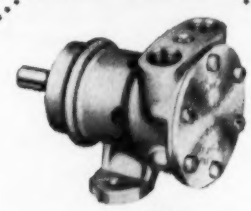
cut pumping costs with JABSCO INDUSTRIAL PUMPS



Model 2760
Bronze Construction—¾" Port Size—Sealed Ball Bearings

- INSTANTLY SELF-PRIMING
- SIMPLE, COMPACT, ONLY ONE MOVING PART
- DURABLE NEOPRENE IMPELLER
- SELF-LUBRICATED
- TROUBLE-FREE OPERATION

HERE'S another Jabsco industrial pump — designed and built for chemical, pharmaceutical and other industrial applications. Ideal for transfer of various liquids and acids — sump drainage, coolant pumping, general transfer, pulp in solution, filtering, brines, plating solutions — even fluids containing foreign matter or particles, silt, crystals, and other gritty materials. Bronze, stainless steel or plastic construction is available to *solve your specific* pumping problems. Pumps either light or heavy viscous liquids. Temperature ranges from 35° to 180° F. Write for a Jabsco factory recommendation for your own needs. Specify application, fluid pumped, temperature, pressure, etc.

FREE — send for catalog sheets, detailed information... no obligation, of course!

PATENTED AND PATENTS PENDING

JABSCO PUMP COMPANY
2031 Lincoln Street, Burbank, California

For more details circle NED-130 F7 on enclosed inquiry slip

Norgren announces NEW advanced line of AIR PRESSURE REGULATORS

Write for New No. 800 CATALOG

More Accurate Control of Regulated Pressure

Greater Air Capacity (cfm)

C. A. NORGREN CO.
3405 So. Elati St. • Englewood, Colorado

For more details circle NED-131 F7 on enclosed inquiry slip

AIR COMPRESSOR
two-stage, 1½ and 2-hp sizes

Packaged Channel-Flo two-stage, 200-psi air compressor unit includes motorcompressor, cushioned rubber mounting on an ASME vertical tank, interconnecting piping and fittings and automatic start-and-stop control. Available in 1½ and 2-hp sizes, it has a compressor flange-mounted directly on the driving motor. Unit can be mounted on a shelf, side wall or overhead bracket with the air receiver located in an out-of-the-way space. Channel valves are used in both low and high pressure cylinders. Other features include inlet filter and muffler, enclosed crankcase, splash lubrication, NEMA C-face motor and low oil consumption piston rings. Made by **Ingersoll-Rand Co.**, Dept. U-24, Phillipsburg, N. J.

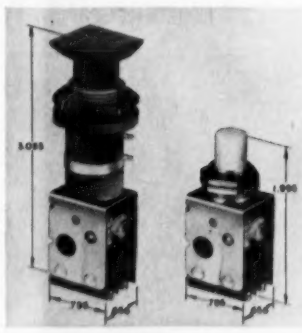
For more details circle NED-132 F7 on enclosed inquiry slip

SPIRAL ROUTER BIT
has 2-in. long carbide tip

Long life between sharpenings results from the spiral design cutting edge of this carbide - tipped router bit. The ½-in. shank model delivers a ½-in. cut. Its carbide insert extends over a 2-in. cutting length. Shearing type of cut reportedly delivers less vibration, a smoother finish cut and requires less machine power than chopping-action type cutter bits. Price is $15. Available from **Price & Rutzebeck**, Box 30, Hayward 79, Calif.

For more details circle NED-133 F7 on enclosed inquiry slip

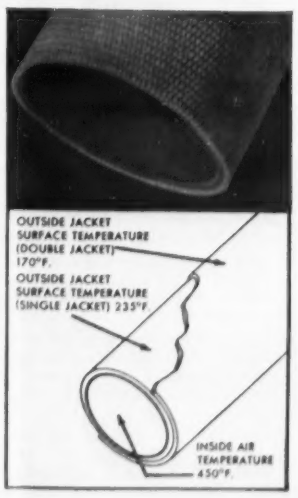
ALTERNATE-ACTION SWITCHES
lighted and unlighted button models



Beryllium - copper spring and nylon index cam provide alternate action in two maintained - contact pushbutton switches for one-button control of two single - pole double-throw circuits. One model has a lighted button and the other an unlighted button. Both complete a cycle of operation every two pushes of the button, but available variations permit other sequences. Lighted model has a subminiature incandescent lamp available for 6, 12 or 28 v. Both switches are UL-listed at 5 amp, 125 or 250 v ac. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-134 F7 on enclosed inquiry slip

NEW QUAKER HOSE
for hot air ducting



Made in continuous lengths up to 50', this new hose easily withstands temperatures as high as +450°F; as low as —80°F. Its synthetic fabric jacket and silicone tube retain temperatures from upstream to downstream end . . . cut heat loss up to 57%. Lightweight and fully flexible, the hose resists abrasion. Available in either single or double jacket, and in 1" to 4" I.D.'s. Sizes 1" and 1¼" I.D. can be made in 30' continuous lengths; 1½" to 4" I.D. in 50' lengths. The hose takes regular expansion and shank hose couplings.

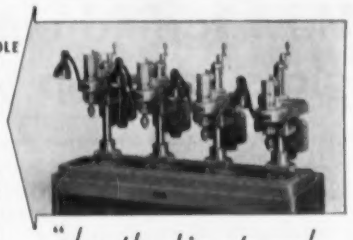
For more information, write:

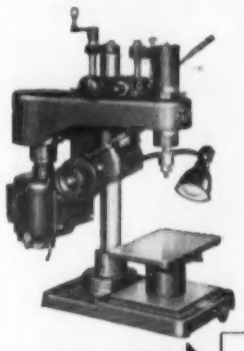
H. K. Porter Company, Inc.,
Quaker Rubber Division, Philadelphia 24, Pa., or
Quaker Pioneer Rubber Division, Pittsburg, Calif.

HKP QUAKER RUBBER DIVISION
QUAKER PIONEER RUBBER DIVISION
H. K. PORTER COMPANY, INC.

For more details circle NED-135 F7 on enclosed inquiry slip

HAMILTON SUPER SENSITIVE, SMALL-HOLE PRECISION (REPEAT) PRECISION DRILLING MACHINES





"for the finest work you do"

Designed and built to master the heart-breaking jobs which so often are attempted on drilling machines of "standard" accuracy.

WE WILL SUPPLY FULL INFORMATION FREE ASK FOR BULLETIN NO. 2468

ADDRESS THE HAMILTON TOOL COMPANY
901 Hanover Street
HAMILTON, OHIO

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

2468

For more details circle NED-136 F7 on enclosed inquiry slip

B.F.Goodrich

New All-Purpose Pneumatic industrial tires speed operations for American Airlines

FIRST to reach an American Airlines plane after it has landed—and the last to leave before take-off—is the tractor generator (above). It supplies power to the plane while the engines are stopped. Speeding the whole operation are B.F.Goodrich All-Purpose Pneumatic industrial tires.

The new All-Purpose tread has hundreds of gripping edges that give positive traction on all hauling surfaces, indoors and outside. Because it's pneumatic, the All-Purpose gives a cushioned ride that protects floors, equipment and driver, cuts maintenance costs. Husky shoulders and a continuous center rib wear slowly and evenly, give the All-Purpose greater stability under heavy loads.

FREE TW Analysis cuts costs up to 50%

The new All-Purpose Pneumatic is just one in a complete line of money-saving B.F.Goodrich industrial tires. Picking the *right* tire for your work is the job of the B.F.Goodrich Tire and Wheel Analysis man. His unbiased recommendations can save you up to 50% on tire costs, up to 20% on maintenance costs. Countless industrial tire users have taken advantage of this FREE B.F.Goodrich service. You can too by mailing the coupon. A consulting service is available to manufacturers of materials handling equipment.

Specify B.F.Goodrich tires when ordering new equipment

B.F.Goodrich Tire Company
A Division of The B.F.Goodrich Company
Department TW-646, Akron 18, Ohio

I would like further information on your FREE TW Analysis.

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Company_____
Street_____
City_____ Zone____ State____

B.F.Goodrich FIRST IN RUBBER

For more details circle NED-137 F7 on enclosed inquiry slip

How to find out where glass can help you

Glass can take many forms that can help you. There are 65,000 different combinations of useful properties that can be formulated to your own specifications here at Corning.

Glass can be transparent or opaque, a conductor or a nonconductor of electricity, it is immune to corrosion, can be made immune to heat and cold, can stand as a barrier to atomic radiation. It can be many things to many people.

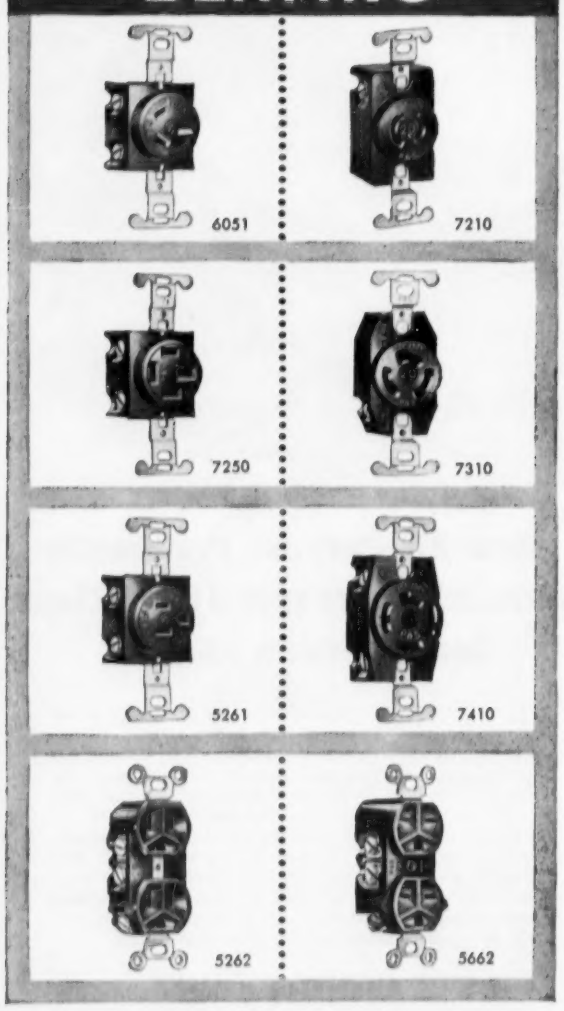
This 12-page Bulletin, "Properties of Selected Commercial Glasses," describes in detail a few of the Corning high-production glasses. It discusses their mechanical properties, resistance to thermal stresses, heat transmission characteristics, electrical properties, corrosion resistance, the basic information you need to determine your need for glass in your products or processes.

Send for Bulletin B-83. Write Technical Products Division.

CORNING GLASS WORKS
56-6 Crystal Street, Corning, N.Y.
Corning means research in Glass

For more details circle NED-138 F7 on enclosed inquiry slip

BUILT TO TAKE A BEATING



TURNLOK® and POLARIZED

You're in mighty good company when you specify the quality line of P&S Turnlok and Polarized devices. Hundreds of plants today depend on these P&S products for the long haul—for the beating they must take in the most rugged service.

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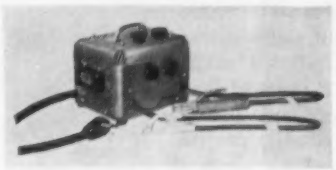
Just off the press . . . the completely new P&S catalog describing the full line of these and all other P&S wiring devices. Write for it today. Address Dept. NED-21.

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK

MAKE THE COMPLETE JOB *COMPLETELY* P&S

For more details circle NED-139 F7 on enclosed inquiry slip

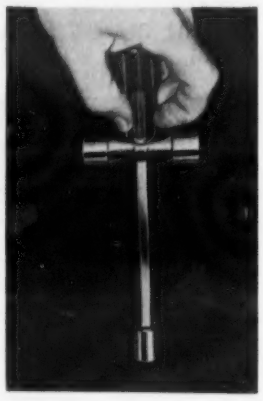
SMALL PORTABLE WELDER
maximum output is 25 v



Weighing 65 lb, the model 200A welder delivers 200 amp on 230 v lines and 180 amp on 115 or 208-v lines. The small, portable unit has a maximum output of 25 v, adequate for contact or arc welding with good penetration, without possibility of electrical injury. Also available is model 400A for use on 440 or 230 v and models for use on International Harvester Electrall tractors and LeTourneau-Westinghouse electric prime movers. Made by **Power Arc Corp.**, Dept. N, 3516 N. Adams St., Peoria, Ill.

For more details circle NED-140 F7 on enclosed inquiry slip

FASTENER-DRIVE HANDLE
rapidly spins down nuts and bolts



Palm-saving floating button on top of handle of the Spin-Master drive handle enables the user to spin nuts and bolts in or out of an assembly. The fast-acting ¼-in. tool is powered by a cross bar which acts as a flywheel. Bar also serves as a leverage point to either loosen or tighten the fasteners. Tool is available as a drive handle only, or in complete sets. Made by **Hunter Tools**, 6606 S. Gretna Ave., Whittier, Calif.

For more details circle NED-141 F7 on enclosed inquiry slip

MOTION PICTURE CAMERA
35-mm reflex shutter type

Object or action may be photographed and viewed through the taking lens on this 35-mm motion picture camera which uses the reflex shutter principle. Various camera drive motors, including a pulse drive system, are available, along with a choice of lenses from 18.5-mm to 80-in. focal lengths. Cameras which record data on the same film simultaneously with the photographic record are also available. Made by **Cameraflex Corp.**, 1949 Broadway, New York 23, N. Y.

For more details circle NED-142 F7 on enclosed inquiry slip

Series H-Capacities from 2000 to 50,000 Pounds

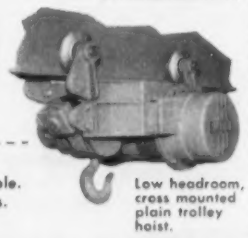
EUCLID HOISTS
for Dependable Service

These hoists are highly efficient and strictly modern in every detail with oversize anti-friction bearings and heat treated steel parts in combination with a welded frame.

The planetary gearing and mechanical load brake are mounted in oil tight housings. The hoist gearing is assembled in the hoist drum.

This design produces an unusually compact, rugged and accessible hoist readily adapted to various installations and types of control.

Write for Literature



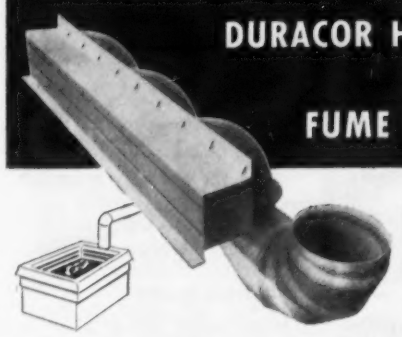
Low headroom, cross mounted plain trolley hoist.

Various other standard and special heavy duty hoists available. Write regarding your requirements.

THE EUCLID CRANE & HOIST COMPANY
1362 CHARDON ROAD • CLEVELAND 17, OHIO

For more details circle NED-143 F7 on enclosed inquiry slip

CORROSION-PROOF
DURACOR HOODS AND FUME DUCTS



DURABLE glass fibre reinforced plastic in a complete range of shapes and sizes

Newly developed for handling fumes from highly corrosive chemicals in operations such as plating and pickling, DURACOR hoods and ducts provide permanent resistance to corrosion.

They are fabricated from specially compounded thermo-setting plastics which are combined with glass or other synthetic fibers. Hoods and ducts can be produced in almost any desired shape. They are light in weight, durable and strong (up to 30,000 psi flexural strength). Write today for complete information.

DURACOR CEILCOTE

DURACOR is another development by CEILCOTE!

THE CEILCOTE COMPANY, INC.
7523-CC 4838 Ridge Rd. Cleveland 9, Ohio

For more details circle NED-144 F7 on enclosed inquiry slip

Lesto PORTABLE-HEAVY DUTY ELECTRIC HAND SAW

- SAWS LIKE A DREAM
- PRECISE AS A SWISS WATCH
- FINEST BALANCE
- LEAST VIBRATION

8 BALL AND ROLLER BEARINGS for all moving parts

Turn it on, guide it . . . a Lesto saw will do the rest. Operating at a rate of 2300 strokes a minute, LESTO cuts finer than sandpaper-smooth, reaches hard-to-get-at-places.

VERSATILE! RUGGED! POWERFUL!
The LESTO Saw has many talents. With its 20 different blades, it cuts hardwood, softwood, plywood, formica, pressboard, plastic, metal, abrasives. It's a rip, cross-cut, coping, keyhole, band, scroll and jig saw—7 saws in 1!

LESTO has a PLANETARY GEAR—the best known mechanism to convert the rotary motion of the motor to the reciprocating motion of the blade.

Service and Parts Available Nationally—SAWS • DRILLS • SHEARS • NIBBLERS

See Your Industrial Distributor or Write:

VICTOR J. KRIEG, Inc.
PRECISION-MADE POWER TOOLS FOR UNSURPASSED PERFORMANCE
611 BROADWAY, NEW YORK 12, NEW YORK

For more details circle NED-145 F7 on enclosed inquiry slip

New CLIP-ON-DRYBROW

For Industrial Use
Clips on in seconds - Lasts for hours

"Reinforced Dupont Cellulose Sponge Sweat Bands"

Designed for Hard Hats, welding helmets and face shields. Clips on any band in a matter of seconds, yet stops perspiration from running down the face for hours. Keeps stinging perspiration from blinding workers and fogging glasses. This modern sweatband refrigerates the head by the principle of evaporation.

KEEP A COOL HEAD FOR SAFETY'S SAKE

1-39 boxes of 25 $4.00 per box.

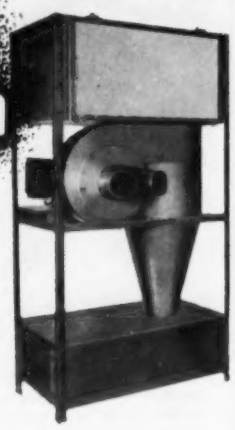
40 or more boxes of 25 $3.50 per box.

AMERICAN ALLSAFE COMPANY INC.
1241 NIAGARA STREET BUFFALO, NEW YORK

For more details circle NED-146 F7 on enclosed inquiry slip

EFFICIENT—LOW COST

Dust Collection



Easy installation . . . efficient low-cost operation . . . simplified maintenance, make Dustkop *FIRST* among equipment to collect most all industrial dusts. There are Dustkop models to eliminate your dust problems . . . that are space saving, self-contained units, or exhaust type for rafter, ceiling or outside location. Write for descriptive literature.

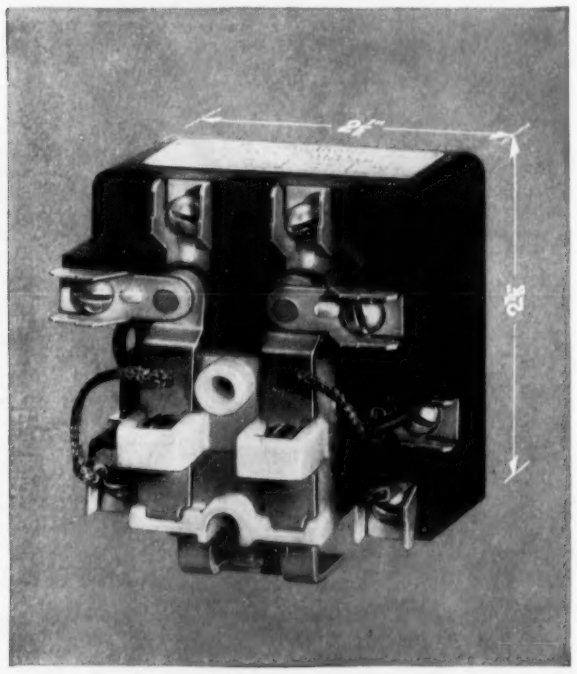
DUSTKOP STOPS DUST

37 STANDARD MODELS TO CHOOSE FROM
• READY TO USE

Also a Complete Line of Mist Collectors

AGET MANUFACTURING COMPANY
1396 E. CHURCH ST. • ADRIAN, MICHIGAN

For more details circle NED-147 F7 on enclosed inquiry slip



10-amp relay fits in 6.5 square inches

THAT'S SPACE SAVINGS! When relay mounting space is tight, and long life is a must, Type Z is your answer. It outlives many millions of operations, yet fits an area 2½" x 2⅝".

Not only is the Type Z small, but both coil and core are easily accessible from the front. No provision for disassembly space is needed.

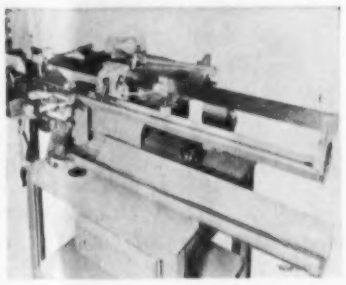
This powerful little relay meets U. L. Standards for 300-volt operation. Silver contacts are rated for continuous 10 amps at 300 volts. It is a 2-pole relay with double-pole, double-throw contacts and can be fitted for either a-c or d-c use.

Booklet B-7073 contains information on the Type Z and several other Westinghouse relays. Send your request to: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-30271

YOU CAN BE SURE...IF IT'S
Westinghouse

For more details circle NED-148 F7 on enclosed inquiry slip

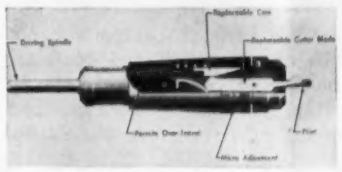
WIRE COLLECTING DEVICE
for automatic cutting machine



Upper trough on the AE-478 wire collecting device, designed for attachment to the Artos CS-6 automatic wire measuring, cutting and stripping machine, collects wire lengths up to 60 in. It automatically empties them into a lower trough after the wire has been cut. For most efficient use of the device, an Artos AF-51 wire straightener should be mounted ahead of the cutting operation. Maximum cutting length of the machine is 194 in. It will strip up to 2 in. on each end and has a speed of 3300 finished wire leads per hour up to 15 in. long. Made by **Artos Engineering Co.**, 2751 S. 28th St., Milwaukee 46, Wis.

For more details circle NED-149 F7 on enclosed inquiry slip

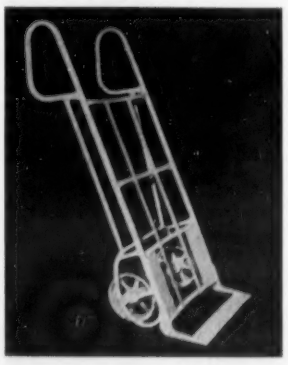
COUNTERSINK TOOL
for angle cuts on reverse surfaces



Rapid and direct access for cutting angles and radii on reverse surfaces is provided by the BakSink tool. It can also be used in some back-forming and grooving operations. Having micro-set accuracy, tool cuts on forward feed only. Interchangeable cutters and pilots allow for range of forms and hole sizes within reasonable limits. Made by **Cogsdill Tool Products, Inc.**, 12980 W. Eight Mile Rd., Oak Park 37, Mich.

For more details circle NED-150 F7 on enclosed inquiry slip

HEAVY DUTY HAND TRUCK
safely handles up to 1-ton loads

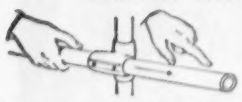


Of welded tubular steel construction with ⅜-in. steel toe plate, model 54RR22WB - 10 hand truck is fully braced for handling up to 2000-lb loads. Compensating curved handles facilitate "breaking" the load while pushing or pulling without shifting the hands. Molded 10-in. rubber tires on roller bearing wheels roll easily over plant or warehouse floor. Made by **Uhrden, Inc.**, 508 Grant St., Dennison, O.

For more details circle NED-151 F7 on enclosed inquiry slip

BUILD ECONOMY RACKS

USE YOUR STOCK PIPE AND **NU-RAIL** SLIP-ON FITTINGS



NO WELDING NO THREADING

SEND US YOUR PROBLEM!

LET US PROVE THAT NU-RAIL CAN:

- Increase storage space
- Reduce rack cost
- Slash erection time

ON ANY PIPE STRUCTURE

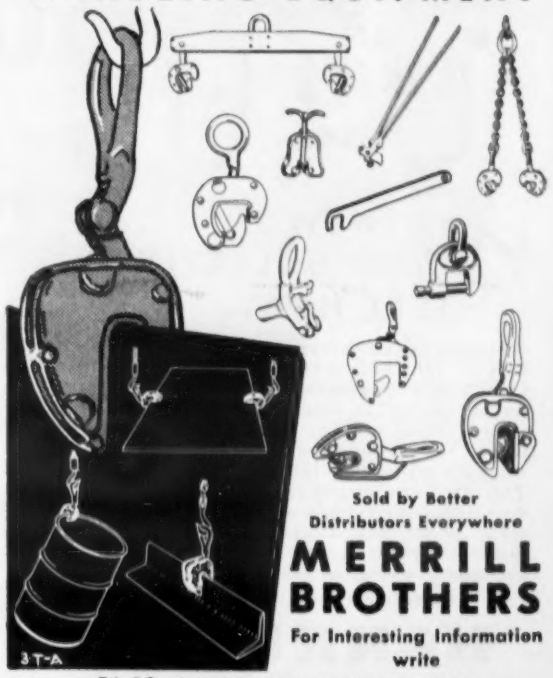
Firms of all sizes have proved overall cost reductions through the use of pipe and NU-RAIL Slip-on Fittings in constructing:

RACKS · TABLES · STANDS · SHELVES · RAILS · BOOTHS · ENCLOSURES

THE HOLLAENDER MANUFACTURING CO.
3839 Spring Grove Avenue • Cincinnati 23, Ohio

For more details circle NED-152 F7 on enclosed inquiry slip

MERRILL MATERIAL HANDLING EQUIPMENT



Sold by Better Distributors Everywhere

MERRILL BROTHERS

For Interesting Information write

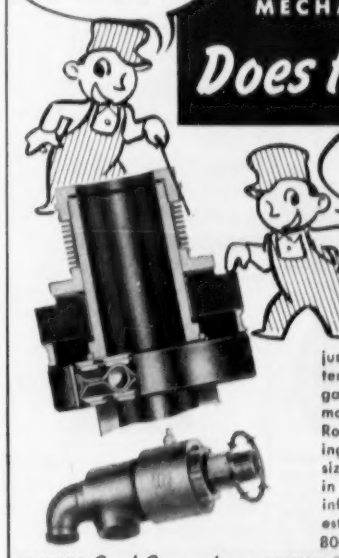
56-13 ARNOLD AVE., MASPETH, N. Y.

For more details circle NED-153 F7 on enclosed inquiry slip

HEAVY MONEL BELLOWS
Automatically adjust to pressure

ROTARY UNION
MECHANICAL SEAL
Does the Job!

SEAL RING
Optically flat surface assures perfect seal



The precision mechanical seal of the Rotary Union stays right long after other joints are leaking — without adjustments or mechanical maintenance. Saves on fluids and gases — on parts — and on maintenance labor. There is a Rotary Union for every rotating joint application in pipe sizes from ¼" through 3" and in 40 types and sizes. For full information contact our nearest office or write for Bulletin 800D

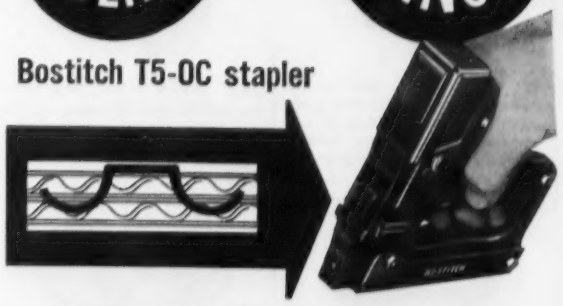
"WHERE *Good Connections* COUNT"® *Trade Name — Patented

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
Baltimore—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Montreal—Toronto

For more details circle NED-154 F7 on enclosed inquiry slip

A CLINCH WITHOUT A PINCH

Bostitch T5-OC stapler



Clinches staple entirely from surface of work

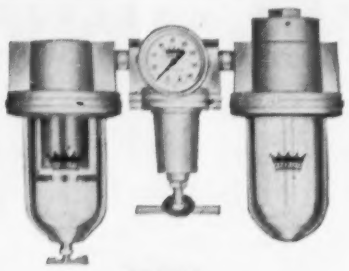
Fast and easy. No clincher blade to insert. Place it where you want a staple and press. Ideal for stapling shipping tags to corrugated containers, insulation around pipes and ducts, any stapling job where you can't get at both sides of the material.

Models for light and medium staples.

Look up "Bostitch" in your phone book, or write 686 Briggs Drive, East Greenwich, Rhode Island.

Fasten it better and faster with
BOSTITCH
STAPLERS AND STAPLES

For more details circle NED-155 F7 on enclosed inquiry slip



"COMBO" UNITS Bulletin 300

REGULATORS Bulletin 301

FILTERS Bulletin 302

LUBRICATORS Bulletin 303

NEW *Crown* BULLETINS TELL HOW...

Hannifin's newest development, the Crown Line of FILTERS, REGULATORS and LUBRICATORS, saves money wherever air power is used. The filters remove dirt and scale without robbing you of precious power. The regulators let more air through when it's needed than other regulators do. The lubricators operate on minimum pressure differential—they are quicker and easier to fill, too. Available now—local, distributor stocks in many areas. Write for bulletins, for name of nearest distributor.

COMPLETE RANGE OF SIZES

HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Ill.

FILTERS • REGULATORS • LUBRICATORS

For more details circle NED-156 F7 on enclosed inquiry slip

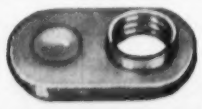
OHIO WELD NUTS

AS THE PRIMARY FASTENERS IN FASTENER ASSEMBLIES MEAN . . . . .

- LIGHTNING-FAST APPLICATION (By resistance welding)
- PRIMARY FASTENER PERMANENTLY POSITIONED (No retapping required)
- SPLIT-SECOND ASSEMBLY OF PRODUCT COMPONENTS (Made possible by pre-attached primary fastener)

RN NUT OHIO'S newest weld nut with pilot and dual-line projections. Ideal in applications where tension is against the weld.

WS NUT For applications on rugged assemblies where it is necessary to anchor nut securely in blind location.



PN NUT Used where a pilot for easy locating, a strong weld and space limitations are important factors. Ideal for use in confined corners, flanges and narrow channels.

RH NUTS Used where it is desirable to have the body of the nut go through the sheet or where extra long thread engagement is needed.

WF NUTS Used where the nut serves a mounting purpose or greater thread engagement is required than is normally provided by other type weld nuts.

WW NUTS Used where a hermetic seal is required to prevent leakage of air, gas, water or dust on blind locations.

SN NUT Used where assemblies are being spotwelded together and a piloted nut is required.

ND NUT Used where a large nut is needed for bridging or joining two sheets or for extra strength.

OVER 50 YEARS OF BETTER FASTENING

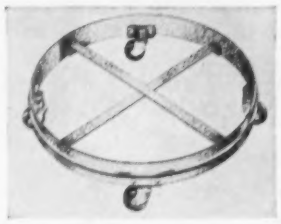
Samples and information available upon request.

THE OHIO NUT AND BOLT COMPANY

14 FIRST AVENUE BEREA, OHIO

For more details circle NED-157 F7 on enclosed inquiry slip

DRUM DOLLY
makes 55-gal drums mobile



Fifty-five gallon drums with up to 25-in. OD can be converted to economical mobile containers by use of this 600-lb capacity drum dolly. Hot dip galvanized after fabrication, it holds the drum in place at all times, can be used indoors or outdoors and has malleable iron supports for four ball bearing casters. Latter are offered with heavy duty 3-in. iron or rubber wheels. Made by **Witt Cornice Co.**, 2124 Winchell Ave., Cincinnati 14, O.

For more details circle NED-158 F7 on enclosed inquiry slip

CEILING AIR DIFFUSER
for modular use with tile ceilings

Series MO-MJ (multi-orifice, multi-jet) ceiling air diffuser is designed for modular installations with all types of tile ceilings. Required air volumes and velocities are delivered through custom-size outlets that match standard ceiling tile and span any modern T-bar suspended structure. Outlets are available in square and rectangular sizes. One, two, three and four-way proportionally balanced air distribution systems are available with the outlet. Made by **Air-Factors, Inc.**, Dept. 117-M, 1624 S. Raymond Ave., Monrovia, Calif.

For more details circle NED-159 F7 on enclosed inquiry slip

ROUND STEEL STRAPPING MACHINE
meets demands of automation

Requiring only 11½ sq ft of floor space, model 12 automatic round steel strapping machine is designed to meet high production packaging and bundling demands. Large machine can tie packages from 2 in. high by 8 in. wide to 20 in. high by 26 in. wide. Standard machine ties up to 16 x 22-in. packages. All functions are mechanically controlled and interlocked, giving a capacity of 24 ties per minute. Machine uses from 14 to 18-gage round steel strapping. Built-in lubrication system oils all working parts by pull of a lever. Made by **United States Steel Corp.**, Gerrard Steel Strapping Div., 4721 S. Richmond St., Chicago 32, Ill.

For more details circle NED-160 F7 on enclosed inquiry slip

DA PRODUCTS SINCE 1910

SPONGE RUBBER

for—

- Pads
- Cushions
- Gaskets
- Mountings, etc.

TELL US YOUR NEEDS. Durkee-Atwood offers prompt sampling service on *uniform cellular structure* sponge rubber. Available in three densities . . . soft and medium (3/32" to 1" thick) and firm 3/32" to ½" thick) . . . in standard 36" width.

TELL US YOUR SCHEDULE. Durkee-Atwood offers prompt shipping service to meet production requirements.

DOR-TITE
Sponge rubber stripping for solving countless problems. All sizes.

FREE SAMPLES—Write on your letterhead for samples of DOR-TITE and/or SPONGE RUBBER. Dept. NE-6.

DURKEE ATWOOD V-BELTS

DURKEE-ATWOOD CO. MINNEAPOLIS 13, MINN.

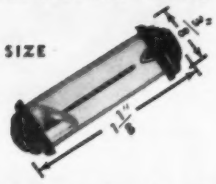
For more details circle NED-161 F7 on enclosed inquiry slip

NEW LOW COST

MERCURY SWITCH

MINIATURE TYPE

ACTUAL SIZE



HERMETICALLY SEALED

Introducing a new Mercoid hermetically sealed mercury switch—a tilting type switch designed to be installed in the same manner as a cartridge fuse (spring clips or holders can also be used for mounting purposes).

Operation is noiseless and contact position is readily visible.

Its small size and light weight make it particularly adaptable for such applications as business machines, coin operated machines, signals, sign flashers or refrigerator doors.

Electrical rating: SP-ST: 1.75 amp. 115 volts; 0.6 amp. 230 volts.

WRITE FOR BULLETIN 665

THE MERCOID CORPORATION
4209 Belmont Ave., Chicago 41, Ill.

For more details circle NED-162 F7 on enclosed inquiry slip

WRITE TODAY for details on this latest addition to Elgin's "Golden Circle" Rotary Tool Line of solid carbide burs and end mills.

ABRASIVES DIVISION, DEPT. I
ELGIN NATIONAL WATCH COMPANY
Elgin, Illinois

For more details circle NED-163 F7 on enclosed inquiry slip

KNU-VISE **insta-release** *PLIERS:*

easy to open—quick to re-clamp

insta-release—that's the name for the easy-action release-lever Knu-Vise pliers. Pliers open instantly re-clamp quickly—easily—without waste motion.

Maintains control over the free-swinging handle—permitting re-clamping with the same grip. Always remains within the hand span of the user.

Flip it over and you have instant release in the other direction. The Knu-Vise *insta-release* lever is available on P-1200 and P-1800 Series pliers.

Remember: Every model of the more than 150 *Knu-Vise* clamps is quick to lock—and quick to open. Ask for a demonstration.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS LAPEER MANUFACTURING CO.

3062 DAVISON ROAD • LAPEER, MICHIGAN

WESTERN DIVISION 422 Magnolia, Glendale, California • CANADIAN DIVISION Higginson Engr. Hamilton, Ontario

For more details circle NED-164 F7 on enclosed inquiry slip

The idea that solved 1000 "headaches"

The famous SBS-60 upside-down hand picture first appeared about a year ago. It dramatically illustrates how SBS-60 Cream Deodorant Soap is almost impossible to waste . . . and why it has solved literally thousands of soap "headaches" in hundreds of nationally known organizations.

What is your soap "headache":

- . . . . soap powder spilled all over your washrooms?
- . . . . bar soap wastefully dissolving on the shower room floor?
- . . . . liquid soap dispensers either dripping or all clogged up?
- . . . . constant work keeping dispensers filled and in order?
- . . . . complaints about your soap from both men and women?
- . . . . whatever your soap "headache", SBS-60 can help.

Write and we'll send complete information that tells you just how SBS-60 Cream Deodorant Soap "cures" most of today's soap "headaches". *Write us today!* We'll rush the details to you.

Write Dept. 57-F6

sugar beet products co.

the washword of industry

MAIN PLANT: 302 Walter St. Saginaw, Michigan
Los Angeles, California • Newark, New Jersey
CANADIAN SUBSIDIARY: Chemical By-Products, Ltd., 22 Rosine Road, Rexdale, Ontario, Canada.

▲ For more details circle NED-165 F7 on enclosed inquiry slip ▲

There's an Easier Way!

Break away from old fashioned cutting methods . . . save time, temper and patience. Now . . . zip through 3/16" aluminum, Fiberglas, plastics, plastic laminates, even 16-gauge steel, with minimum effort . . . maximum speed . . . with the KETT Panel Master Saw. Its performance is outstanding on metal laminates such as Mirawal, Metlwal, Met-L-Wood and Amorply. Two-inch diameter saw blades give full 3/8" depth cut. Leaves accurate, smooth milled edge that requires no sanding or finishing. Amazingly easy to use . . . extra rugged for long, hard service.

Powered by heavy duty, industrial type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.

write for Catalog E-18

KS-3AM Panel Master Saw

THE KETT TOOL COMPANY
5051 Madison Rd.
Cincinnati 27, Ohio

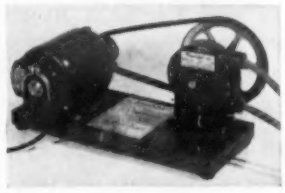
▲ For more details circle NED-166 F7 on enclosed inquiry slip ▲

LABEL DISPENSER
delivers self-adhesive rolled types

Roll type, self-adhering labels are dispensed ready for application to products by this manual dispenser. It accommodates rolls up to 9 in. wide for delivering multiples of small labels or single large label at a time. Thermostatically controlled heating element speeds delivery as machine separates labels from carrier sheet. Price is $39.50. Made by **Archer Label Co.**, Dept. NED-6, 783 Kohler St., Los Angeles 21, Calif.

▲ For more details circle NED-168 F7 on enclosed inquiry slip ▲

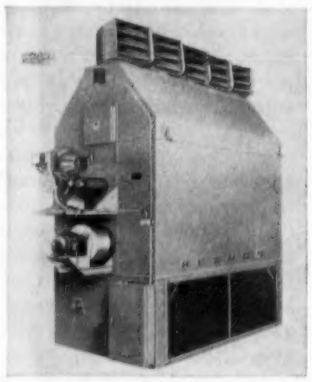
SLURRY PUMP
design eliminates wet parts



All contact of moving parts with abrasive solutions, slurries or other fluids being pumped is eliminated in this pump. Intake and outlet are one continuous flexible tube that is exposed to the action of a rotary squeegee. By selecting a tubing material suitable to the liquid being handled, a wide range of corrosive, sterile and abrasive substances can be moved with minimum pump maintenance. Action is quiet and capacity is uniform. Made by **Randolph Co.**, Dept. NED, 1018 Rosine St., Houston, Tex.

▲ For more details circle NED-169 F7 on enclosed inquiry slip ▲

SPACE HEATERS
capacities range to 2 million Btu

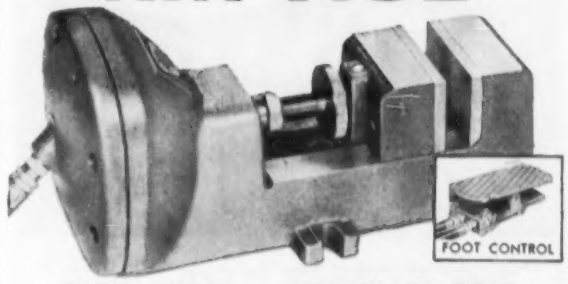


Stainless steel direct-fired space heaters with gas, oil or dual fuel burners are built with capacities from 400,000 to 2 million Btu. They operate with fuel oils through No. 5 grade, or natural, mixed, manufactured or LP gas. Combination gas-oil unit can have interchangeable burners or a single burner. Heaters can be installed for top, bottom or horizontal discharge and are easily adapted to duct systems. Multiple individually adjustable discharge nozzles with adjustable horizontal louvers allow control of the air distribution pattern. Made by **Reznor Mfg. Co.**, 168 James St., Mercer, Pa.

▲ For more details circle NED-170 F7 on enclosed inquiry slip ▲

Speedy

AIR VISE



HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY 1-TON AIR PRESS

Does the work of expensive presses! Power factor 15 times air line pressure. 5-inch throat; Ram 0 to 5"; stroke 5/8"; table 5" x 5". Operated by foot or fingertip controls. **$85.00**

Order from Your Supplier or Write for Air Tool Catalog

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle NED-171 F7 on enclosed inquiry slip ▲

Here at last

FULL 42-INCH PRINTMAKING IN A CONVENIENT

Table Model

Now, TABLE MODEL convenience, LOW COST and FULL WIDTH are combined in *one* whiteprinter—the new Ozalid Streamliner 200!

Now, anyone can turn out sparkling whiteprints in seconds—up to 42" wide! In the small office, Streamliner 200 gives you prints whenever you need them.

For the large firm, it handles "rush work"... saves interruptions of volume printmaking . . . *stands by* when other machines are "down" for service.

Why not test-run your own tracings through the Streamliner 200? Just call your local Ozalid representative or write: Ozalid, Dept. S-6, Johnson City, N. Y.

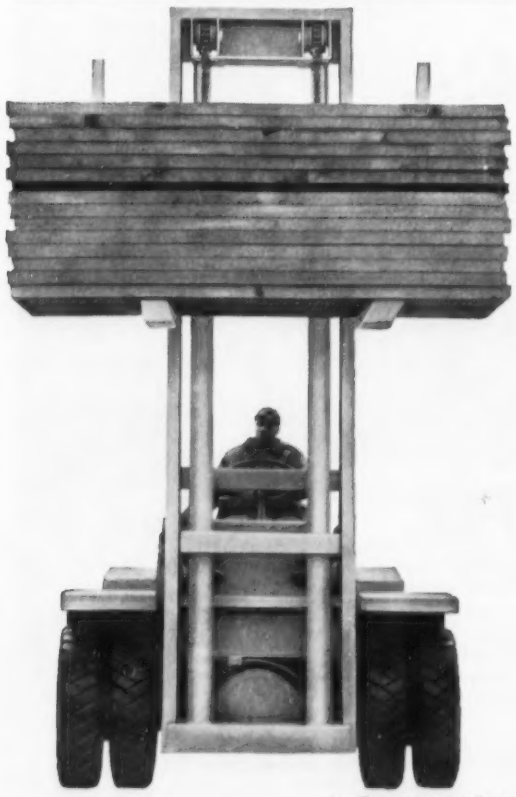
Stand above is optional

OZALID®

First name in whiteprinting

A Division of General Aniline & Film Corporation • In Canada: Hughes Owens Company, Ltd., Montreal

▲ For more details circle NED-172 F7 on enclosed inquiry slip ▲



Only Yale
HIGH-CAPACITY GAS TRUCKS
give you all 3!

1 **WIDE-ANGLE VISION.** Wide-spaced, nested upright channels reduce frontal obstruction. Hoisting cylinders and lifting chains are located close to channels. Operator sits high and in center. Result: full, unobstructed center visibility...a greater arc of vision...300% more forward visibility!

2 **GREATER STABILITY.** Lifting chains are widely separated for smooth, steady lifting action. Widely-spaced side-thrust rollers compensate for off-center loading. Low center of gravity. Large-size, high-flotation tires for good traction.

3 **FAST CYCLE OPERATION.** Lifting speed with full load is up to 60 feet per minute. Fast, controlled lowering. Travel speed up to 20 MPH. You get a fast round trip—more cycles in any work period.

Available with Fluid Coupling or standard transmission. Send for Bulletin No. 5230, The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-376.

YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS

*REG. U. S. PAT. OFF.

Gasoline, Electric & LP-Gas Industrial Lift Trucks • *Worksavers* Warehousers • Hand Trucks • Hand and Electric Hoists

▲ For more details circle NED-167 F7 on enclosed inquiry slip ▲

ROTAC

NEW NAME IN RECIPROCATING TORQUE ACTUATORS

Rōtac—mark it well because this name assures you of high torque values in reciprocating rotary power. Rōtac—made by Ex-Cell-O—for lowering revolving, lifting pushing, pulling, swinging, opening, closing, clamping, turning, indexing and oscillating. But there's more . . .

FREE LITERATURE

If you move anything you'll want detailed information on Rōtac. Learn how this rotary power is used throughout industry in thousands of applications. Complete with photos, schematics, engineering data, etc.

When writing direct, address:
RŌTAC DIVISION
GREENVILLE PLANT
GREENVILLE, OHIO

EX-CELL-O CORPORATION DETROIT 32, MICHIGAN

57-57

For more details circle NED-173 F7 on enclosed inquiry slip

Greater visibility
Lighter weight
Lower cost

SECUREYE TRADE MARK EYESHIELD

- **180° VISION**—No seams or joints. No blind spots.
- **LARGE-AREA PROTECTION**—Rounded and sloped deflector shield of non-shattering Lumarith fits completely around eyes, nose-bridge, upper face, temples. Opaque green visor eliminates overhead glare.
- **PERFECT COMFORT**—Weighs only 1½ ounces. Fits comfortably over prescription glasses.
- **EXCLUSIVE SWEATBAND**—Soft, absorbent foam rubber, easily replaceable.
- *Ideal for grinding, chipping, sawing, riveting, drilling, etc.*

Transparent Clear or Transparent Green.
$1.40 each. 4 doz or more, $1.25 each.
Replaceable sweatbands, 25¢ each.

PULMOSAN SAFETY STOPS

Pulmosan

PULMOSAN SAFETY EQUIPMENT CORPORATION
644 Pacific Street, Brooklyn 17, N. Y., STerling 9-0200
1007 Washington Ave., St. Louis, Mo., CHestnut 1-9393

For more details circle NED-174 F7 on enclosed inquiry slip

Pack, Inspect and Assemble

with ISLAND UNITIZED CONVEYOR TABLES

SPEEDS UP PRODUCTION

An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.

FREE!

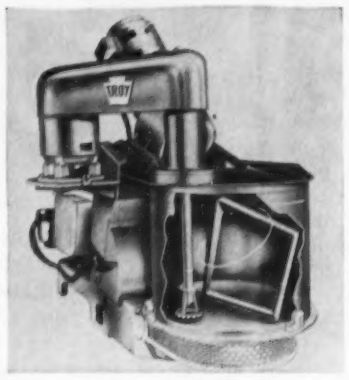
ISLAND EQUIPMENT CORP. Dept. NED 6
27-01 Bridge Plaza North
Long Island City 1, N. Y.

Please send Bulletin 1P-1 on Island Unitized Conveyor Tables.

NAME _____
ADDRESS _____
CITY _____ STATE _____

For more details circle NED-175 F7 on enclosed inquiry slip

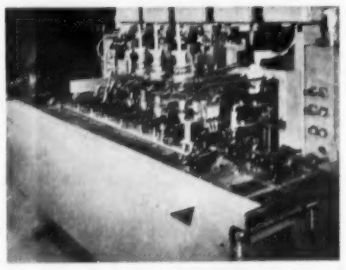
MIXER-DISPERSER handles most products in one step



Mixing action of a diamond-shaped agitator, rotating on an angular axis, is combined with the mulling, shearing and impinging action of a revolving disperser head in the Duplex Disperser. Its head turns at 3600 rpm to force material into the mulling zone and out toward the sides of the rotating change can where it is again swept into the agitator blade. Result is uniform blending into a smooth, homogeneous batch that usually requires no further processing. A 60-gal unit is available. Made by **Troy Engine & Machine Co.**, 70 Parsons St., Troy, Pa.

For more details circle NED-176 F7 on enclosed inquiry slip

PALLET TRANSFER MACHINE is combined with machining or assembly units for automated use



Combination of components of this pallet transfer assembly machine makes practical any size of in-line or island arrangement for machining or assembly. All pallets, offered in 6, 8, 10 and 12-in. widths and lengths up to 24 in., are moved on the ways simultaneously and are accurately positioned by dogs. Sides of the ways are machined for mounting of hopper feed and assembly machines. Standard accessories for stud driving, screw driving and sorting are available.

Machine is made up by combining standard 3, 4, 6 and 8-ft sectional horizontal ways with end sections. In-line arrangement combines a front and rear section, required number and lengths of horizontal ways and a slat type return conveyor. Island arrangement uses four end sections and required number and lengths of horizontal ways to make up a square or oblong arrangement of virtually any size. Flexible system permits quick retooling.

An electrical sequence panel and control panel are supplied as required for various stations. Sequence panel can be arranged for practically any overall cycle desired and controls as many as 12 stations. Made by **Syracuse Special Machine Co.**, 2900 E. Erie Blvd., Syracuse 3, N. Y.

For more details circle NED-177 F7 on enclosed inquiry slip

The Key To Fast, Safe Mechanized Material Handling At Freight Docks

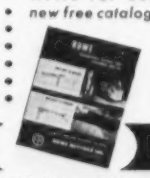
ROWE Adjust-A-Dock

■ To improve service and reduce handling costs, F. W. Woolworth uses 12 fully-adjustable ROWE hydraulic docks. Raised or lowered to the level of the truck bed, the Adjust-A-Dock cuts costs by speeding the handling of 100 truck loads of merchandise in an eight-hour shift.

The Rowe Adjust-A-Dock is a rugged, self-contained unit built for long trouble-free service and minimum maintenance.

More than 80 standard Rowe models are available to meet your specific requirements.

Write for our new free catalog.



ROWE METHODS, Inc.

■ 2534-E DETROIT AVENUE • CLEVELAND, OHIO ■

For more details circle NED-178 F7 on enclosed inquiry slip

York

STEEL TRANSFER FILES

COMPARE PRICES BEFORE YOU BUY!

- STACK CEILING HIGH
- ELIMINATE SHELVING
- LOCK TOGETHER
- SAVE SPACE UP TO 50%
- STURDILY CONSTRUCTED
- LAST A LIFETIME

You can't buy better facilities for orderly and economical record filing than those provided by York Steel Transfer Files. At York's new low prices, steel files often cost less than cardboard containers and shelving! Standard sizes for popular records . . . *including time and tab cards* . . . are available for immediate delivery. Write today for catalog and new low prices.

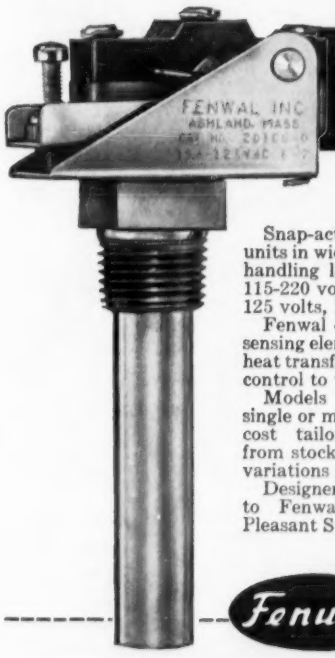
York

N-840-D1

YORK SAFE & LOCK
2101 Mulberry Road, S.E., Canton 2, Ohio

For more details circle NED-179 F7 on enclosed inquiry slip

THERMOSTAT BOSSES SIZABLE ELECTRICAL LOADS WITHOUT RELAYS.



CAN YOUR INDUSTRY USE IT?

Snap-action THERMOSWITCH® units in wide use without relays, handling loads up to 20 amps, 115-220 volts A.C., or 10 amps, 125 volts, D.C.

Fenwal design of liquid-filled sensing element assures minimal heat transfer path, fast response, control to within ±2°F.

Models available to control single or multiple circuits. Low-cost tailor-mades assembled from stock parts. Thousands of variations possible.

Designers — write for details to Fenwal Incorporated, 86 Pleasant St., Ashland, Mass.

Fenwal

Controls Temperature . . . Precisely

For more details circle NED-180 F7 on enclosed inquiry slip

SEALINE

Hand Sealer

For Thermo-Plastic Films

SEALS BAGS - PACKAGES - STRAIGHT or IRREGULAR SHAPES

Ideal on Polyethylene and Pliofilm

- Economical — seals direct — no intermediate materials required.
- Large comfortable grip.
- Adjustable temperature control 200° to 450° F.
- Uses only 50 Watts — operates on AC or DC.

SEALINE Hand Sealer $23.90 f.o.b. Chicago

ORDER DIRECT

SEALINE MFG. CORP.
4720 W. Lake St., Chicago 44, Ill.

For more details circle NED-181 F7 on enclosed inquiry slip

MONOBLOC ROTARY PUMP

gives you 28 ways to hook up piping

It's easy to fit this new Worthington Rotary Monobloc pump into existing space because you have a choice of many different piping arrangements. Dual suction and discharge opening, reversible pump direction and four flange positions on the motor will help you simplify layouts—saving time and materials. Like all Worthington Monoblocs, the new rotary eliminates alignment problems, is less expensive than separate pump, motor and baseplate. Write for free booklet. Worthington Corporation, Section NED, Harrison, New Jersey.

WORTHINGTON

PC.7.12A

For more details circle **NED-182 F7** on enclosed inquiry slip

PORTABLE COMPRESSOR

supplies pressures up to 150 psi.

Take compressed air quickly where it's needed with this handy Worthington utility compressor. Every shop should have one for cleaning filters, electrical equipment and inaccessible machinery, spray painting, blowing out clogged lines, power lubrication, tire inflation, and many other every day chores. Available with ½ and ⅓ hp electric motor or gasoline engine. Write for free bulletin describing the complete compressor line. Worthington Corporation, Section NED, Harrison, New Jersey.

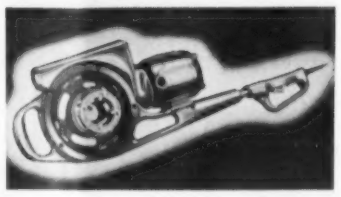
WORTHINGTON

PC.7.12B

For more details circle **NED-183 F7** on enclosed inquiry slip

PIPE & CONDUIT DRIVE UNIT

threads, pulls, lifts and turns



Improved No. 68 portable power drive is suited for various jobs, including pipe and conduit threading, pulling, lifting and turning. Adaptors can be supplied for rotary power applications. Polished aluminum finish is easy to clean. Unit is basically a worm and ring gear assembly housed in a lightweight frame and powered by a ½-hp 110-v or 90-psi air motor. Made by **Toledo Pipe Threading Machine Co.**, Dept. NED, 1445 Summit St., Toledo 4, O.

For more details circle **NED-185 F7** on enclosed inquiry slip

PLASTIC GLOVES

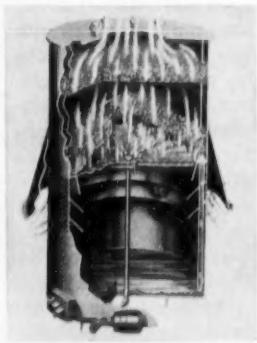
will not stretch out of shape

Protection of hands from skin infection and precision equipment from corrosion caused by perspiration is offered by Wil-Gard Compar plastic gloves. They are free of sulphur and will not tarnish metal parts, and are also resistant to petroleum base degreasing agents. Gloves are easy to pull on or off and will not stretch out of shape. Sizes from 8 to 11 are offered in 10½, 14 and 18-in. lengths with curved fingers. Made by **Wilson Rubber Co.**, Industrial Div., 1205 Garfield Ave. S.W., Canton 6, O.

For more details circle **NED-186 F7** on enclosed inquiry slip

OIL BATH AIR CLEANER

improved intake type for engines



Improvements incorporated in the low resistance Cycoil oil bath air cleaner include redesigned base for easier installation, greater protection at intake against snow, water and bugs and redesigned vari-flow valves. Thorough mixing of oil with intake air, positive draining from filter pads, and perforated entrainment plate principle assure 100 per cent dust removal for supercharged engines and centrifugal compressors. The type P Cycoil is effective on engines with low allowable intake resistance. The type P-V unit has vari-flow valves added on entrainment plate to insure thorough cleaning regardless of capacity at which engine is operating. Made by **American Air Filter Co.**, Dept. PD, 391 Central Ave., Louisville 8, Ky.

For more details circle **NED-187 F7** on enclosed inquiry slip

BALANCED ANGLE COMPRESSOR

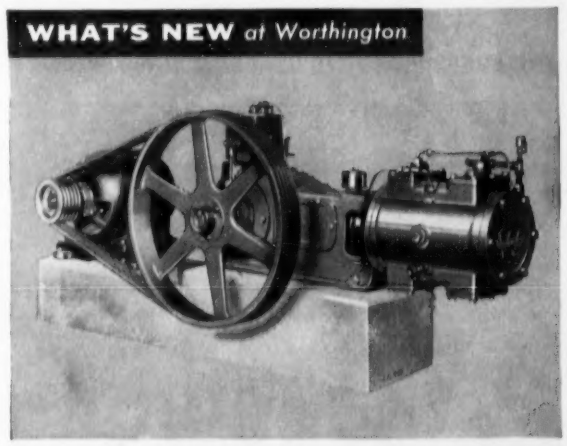
now available in larger—15 to 20 hp—sizes

Now you can get all the advantages of modern design in the larger compressor sizes. Smoother running, a Worthington "balanced angle" compressor needs no special foundation. Its exposed cylinders increase cooling efficiency, save power dollars and give better compressor performance in high ambient temperatures. For low-cost replacement, cylinders are readily removable. Balanced angle compressors are available base or tank mounted or as a bare compressor. Write for free literature. Worthington Corporation, Section NED, Harrison, New Jersey.

WORTHINGTON

PC.7.12D

For more details circle **NED-188 F7** on enclosed inquiry slip



WATER-COOLED COMPRESSOR

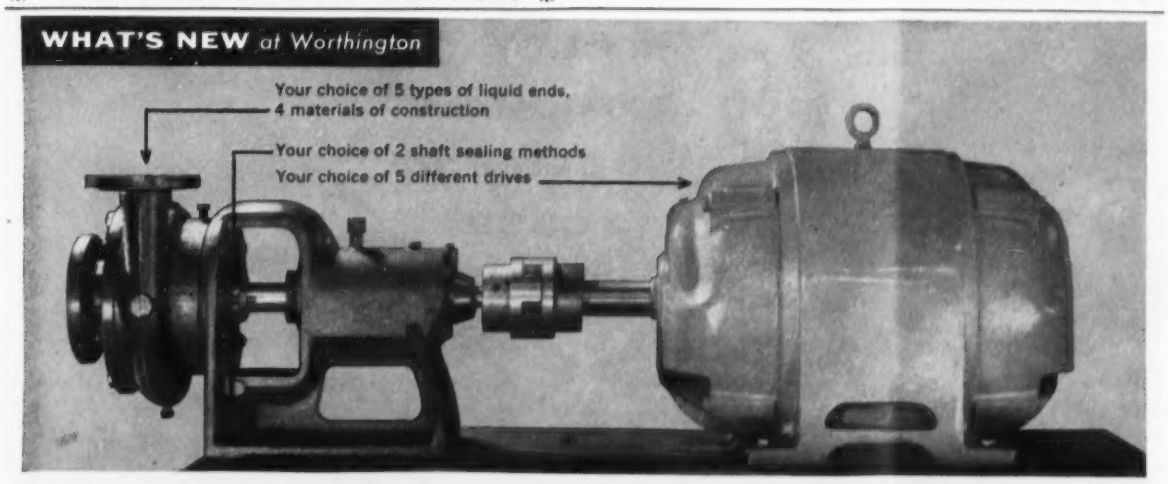
best bet for heavy duty applications

For heavy duty compressor applications, look into the benefits of using Worthington water-cooled units. The work-horse of the line, a type HB compressor, will give you 24-hour-a-day, 7-day-a-week service. For the really big jobs a Worthington water-cooled unit is your best bet. Belt-driven Worthington HB compressors are available in ratings from 50 to 2,000 cfm. Write for free descriptive bulletin. Worthington Corporation, Section NED, Harrison, New Jersey.

WORTHINGTON

PC.7.12E

For more details circle **NED-189 F7** on enclosed inquiry slip



NOW! 70,480 PUMP COMBINATIONS TO CHOOSE FROM

The standardized line that lets you "custom-build" at no extra cost

Whether you use one pump or many, Worthington's line of Standard End Suction Centrifugal (SESC) pumps give you many advantages. You can choose direct motor drive, monobloc motor, monobloc turbine, direct or belt drive. You also have a choice of materials of construction, types of liquid ends, sealing methods and drives—70,480 combinations in all. Because each is built from standard parts, you get prompt delivery at competitive prices.

After your SESC pump is installed you benefit from its standardization. Because many, many parts are interchangeable between pump types and sizes, you need as much as 50% less spare parts inventory. Because the entire line is built to the same basic design you cut maintenance, reduce downtime. If you know one SESC pump, you know them all.

Write for free booklet explaining in detail how SESC standardization means real savings to all pump users. Worthington Corporation, Section NED, Harrison, New Jersey.

WORTHINGTON

PC.7.12F

For more details circle **NED-184 F7** on enclosed inquiry slip

STEAM PUMPS FROM STOCK

Save weeks by selecting from standard types

Order your next steam pump from Worthington and you'll have a big selection of standard pumps available from stock. You'll save time, get a unit that's backed by a large stock of spare parts. To cut maintenance costs all standard pumps have renewable cylinder liners. Pumps shown above are of the valve plate type. Write for free literature. Worthington Corporation, Section NED, Harrison, New Jersey.

WORTHINGTON

PC.7.12G

For more details circle **NED-190 F7** on enclosed inquiry slip

panel mounted Pyrometers with Alnor® Accuracy

Alnor Pyrometers are designed to give consistently accurate temperature readings under the most severe conditions of vibration, dirt and corrosive atmosphere. Sturdy, laboratory-precise movements are cushioned in fume-proof, splash-proof welded steel cases in front of board or flush type mountings. Six series available for single circuit up to 31 circuit applications. Eleven standard ranges covering 0-300° F. to 0-3000° F. or centigrade equivalents.

Single-circuit series data is covered in Bulletin 4371.

Multi-circuit series data covered in Bulletin 4361.

Circle number you wish; attach this ad to your letterhead, and mail to: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

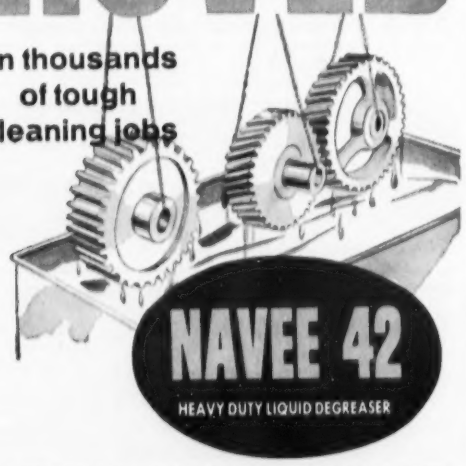
Alnor

For more details circle NED-192 F7 on enclosed inquiry slip

ANOTHER *Safety-Tested* PENETONE PRODUCT

PLANT PROVED

on thousands of tough cleaning jobs



NAVEE 42

HEAVY DUTY LIQUID DEGREASER

Cuts Grease With Instant Emulsifying Action • Far Safer Than Petroleum, Chlorinated and Caustic Cleaners

Watch Navee 42 penetrate and dissolve heavy fuel and diesel oils, carbon stains, lead oxide, packing grease, asphalt, tar and a wide variety of stubborn deposits. Users of Navee 42 are constantly discovering new ways to put it to work. For example, this powerful degreaser - - formula containing top-acting solvents, emulsifiers and wetting agents - - actually cleaned up an entire harbor filled with discarded Bunker C fuel oil! So whatever your operation — in wipe, dip or spray applications — Navee 42 can work for you.

UNMATCHED SAFETY STANDARDS

Heat it! Inhale it! Test it for alkaline action on the skin! Navee 42 has higher safety standards than any other heavy-duty degreaser. Non-explosive – high flashpoint (approx. 180° F) far exceeds limitations of petroleum solvents. Low toxicity eliminates dangers of highly volatile chlorinated solvents. Non-caustic – has no burning action on workers' skin or surfaces being cleaned. You owe it to yourself to run a free sample test. Send in this handy coupon today!

The PENETONE Company

74 Hudson Avenue, Tenafly, New Jersey

Liquid and Powdered Detergents and Degreasers • Industrial Strippers • Electrical Equipment Cleaners • Floor Finishes and Waxes • Corrosion Inhibitors • Automotive, Marine and Aircraft Chemicals

Mail Now! FOR FREE SAMPLE TEST

The Penetone Co., Dept. E16 74 Hudson Ave., Tenafly, N. J.

Without obligation, please rush me all details on NAVEE 42 FREE Sample Test.

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

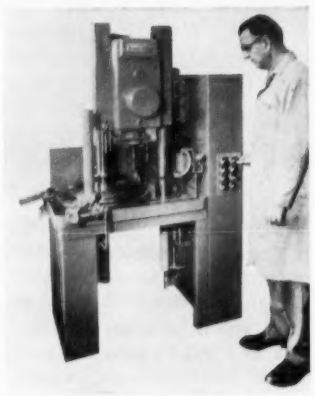
For more details circle NED-193 F7 on enclosed inquiry slip

MASONRY DRILLING MACHINE uses 1/4 to 6 1/2-in. diamond coring bits

Cutting of holes in existing floors or walls for conduit or piping and extracting of test cores are applications for the Hustler core drilling unit. Surface-set diamond or diamond impregnated coring bits drill through cement block at rate of 1 minute per foot or reinforced concrete aggregate at 5 to 8 minutes per foot. Machine will also drill through glass, cermets, ceramic or glazed tile, marble and granite. Basic unit weighs 80 lb (less motor) and is adaptable to any air or electric motor. Water swivel cooling system is incorporated. Feed mechanism has a 28-in. travel. Unit can be used in a horizontal or vertical position and is made for attaching to walls. Bits are available in 1/4 to 6 1/2-in. diameters in various grades. Made by **Diamond Products, Inc.**, 323 Prospect St., Elyria, O.

For more details circle NED-194 F7 on enclosed inquiry slip

VERTICAL HONING MACHINES manual and automatic models for 3/8 to 2-in. diameter bores



Four mechanically and pneumatically actuated vertical honing machine models comprise line capable of honing bores from 3/8 to 2-in. diameter. Model 10A1 has a 3/8 to 1-in. ID range with 10-in. swing, a maximum spindle travel of 2 1/2 in. and a 6-in. lift-out stroke. Power is supplied by a 3/4-hp motor. Model 10M1 has same capacities, but does not have automatic attachments. Models 15A2 and 15M2 have a 1/2 to 2-in. ID range, 15-in. swing, 6-in. maximum spindle travel and 8-in. lift-out stroke. They are powered by 2-hp motors.

Automatic equipment includes rotary indexing table; magazine feed; pregaging; bore-to-bore sizing by fluid; Plugmatic sizing; pneumatic hone expansion with automatic rapid expansion, feed and collapse; postgaging; sorting; and ejection. Automatic shut-down for continuous error or worn stones is also included. Cycle on manual model is controlled by two limit switches. Made by **Barnes Drill Co.**, 866 Chestnut St., Rockford, Ill.

For more details circle NED-195 F7 on enclosed inquiry slip

A modern truck for modern plants

The HydroLectric with most modern features

- 2 Drive Wheels instead of one
- 2 Braking Systems available instead of one
- 4 Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease —Greater Maneuverability
- 50% less Maintenance —Easy Accessibility
- Finger-Tip Control —Greater Safety

Put these modern features to work for you, greater profit at no additional cost.

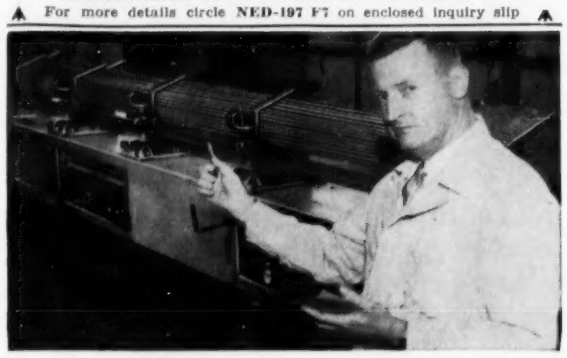
Write for Bulletin KP

STUEBING Designed • Engineered • Built

LIFT TRUCKS, INC. / CINCINNATI 14, OHIO

THERE IS A TRUCK FOR EVERY PURPOSE TO HANDLE ANY KIND OF MATERIAL

For more details circle NED-197 F7 on enclosed inquiry slip



LIPE AUTOMATIC MAGAZINE-LOADING BAR FEEDS GUARANTEE 30% PRODUCTION INCREASE . . .

Find out how much more you can get!

Actual case histories offered by present users of the Lipe AML Bar Feed show production increase of *over 200%*! With figures like these you can visualize what man-hour savings may be produced. Owners realize significant material waste reductions, too.

If your production set-up uses automatic screw machines, centerless grinders, turret lathes, punch presses, thread rollers, shears, etc., write or wire for a FREE Lipe Sales Engineering estimate. For folder and complete details contact Dept. BF.

Lipe-ROLLWAY CORPORATION SYRACUSE 1, N. Y.

MACHINE TOOLS • HEAVY-DUTY AUTOMOTIVE CLUTCHES • PORTABLE POWER HACK SAWS

For more details circle NED-198 F7 on enclosed inquiry slip

This new mobile workbench is an open and shut case

for FAST EFFICIENT MAINTENANCE

NOW . . . a workbench that can be rolled to work location by one man . . . with adequate space for tools and spare parts, lock-equipped doors plus an ample surface working area.

All-welded 1/8-inch and 3/16-inch steel plate constructed, the ROLL-A-BENCH is capable of supporting up to 2000 pounds. Heavy-duty roller bearing wheels (hard rubber or phenolic resin) are furnished. A foot-operated locking mechanism assures stable working surface. Vise optional.

Write today for literature and prices or . . . CALL MOntrose 2-4242.

7359-OK

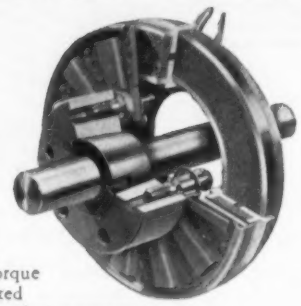
THE OVERBEKE-KAIN COMPANY

20979 Aurora Road • Bedford, Ohio

the Overbeke-Kain company

For more details circle NED-196 F7 on enclosed inquiry slip

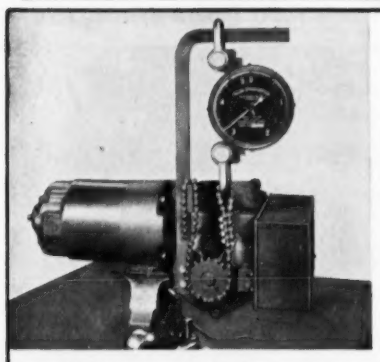
NEW electric power brake
NEW fail-safe features
NEW design flexibility



It's Warner's new POWER-SAFE electric brake, designed for use as a power brake . . . fail-safe brake . . . or both! Permanent magnets supply full-time reserve braking power. No moving parts in fail-safe feature. Not an "off-on" brake—torque build-up can be adjusted electrically. No shock when permanent magnets operate brake. Can be used in combination with a clutch in a small space. Advantages and features described in Catalog No. 6291. Write today!

Beat competition with
ELECTRIC BRAKES AND CLUTCHES
Industrial Division
Warner Electric Brake & Clutch Co., Beloit, Wis.

▲ For more details circle **NED-199 F7** on enclosed inquiry slip ▲



DILLON Dynamometer checking torque of electric motor in simple bench test setup.

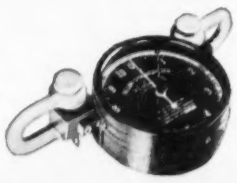
COMPACT
Fit into limited space measuring only 8¼x6¼x3". Weigh 8 lbs. 4 oz. Large, easy to read dial with maximum indicator hand.

EASY TO USE
Not injured by accidental overload. Reads direct in lbs. 13 capacities from 0-500 lbs. up to 0-100,000 lbs. Including max. pointer and shackles.

DILLON TRACTION DYNAMOMETER

Calibrated on Certified Laboratory equipment. Highest quality workmanship and materials throughout.

COUNTLESS USES
Tests tensile strength of materials, indicates torque, static loads, tension in wire, rope, cable, etc. Thousands in use. Priced LOW.



WRITE TODAY FOR FULL COLOR BROCHURE & PRICES

W.C. DILLON & CO., Inc. 14578NE KESWICK ST., VAN NUYS 1, CALIF., *(Suburb of Los Angeles)*

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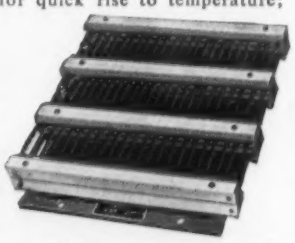
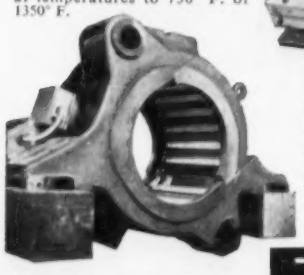
A GUARANTEED HEAT SOURCE, *Easily Installed*

"FOLDED-and-FORMED" Heating Elements
are quickly, easily installed in furnaces, ovens, kettles, etc., to assure a heat source unequalled for quick rise to temperature; long-life efficiency; low-cost maintenance and repairs.

STANDARD RACKS
Temperatures from 750° to 1700° F.
Sizes 12" x 12". Installed vertically or horizontally, side-by-side, end-to-end, or in banks, to meet K. W. requirements. Five-year guarantee, at temperatures to 750° F. or 1350° F.





View of Extrusion Press Container Housing—container removed—temperature 1200° F. Heaters keep container and die at aluminum extrusion temperatures.

CUSTOM BUILT RACKS
Available in wide range of sizes and combinations, to fit any flat or curved area, to provide maximum K. W. at temperatures to 1850° F. Hundreds of different applications are demonstrating the outstanding efficiency and economy of "F-and-F" Heating Elements. You, too, can use them *profitably!*

TREN INC.
Electrically Heated Industrial Equipment
242 LEVERINGTON AVE., PHILA. 27, PA.
In Canada: Supreme Power Supplies Limited Toronto 14

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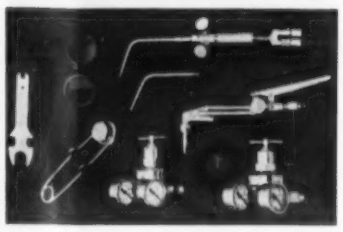
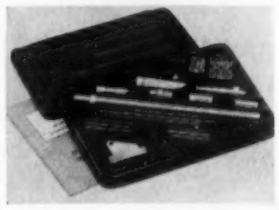
WELDING & CUTTING OUTFIT
cuts steel plate up to 1 in. thick



Welding, brazing, heating and cutting can be performed with this light duty outfit for intermittent service. It will weld metals up to 3/16-in. thick, or up to 5/16 - in. with large tips, and will cut steel plate up to 1 in. thick. Included are two style 8000 single-stage regulators, twin 3/16-in. gas hoses with connections, type 400 lightweight welding torch with mixer and two tips, style 1490 cutting attachment with one tip, wrench, sparklighter and goggles. Made by **Air Reduction Sales Co.,** Dept. NED, 150 E. 42nd St., New York 17, N. Y.

▲ For more details circle **NED-202 F7** on enclosed inquiry slip ▲

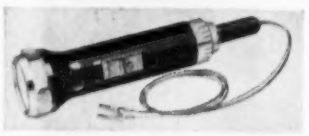
DIFFERENTIAL TRANSFORMER KIT
aids work in automatic devices



Seven complete differential transformers having linear range from ±0.01 to 2.5 in. are included in this Atcotran kit designed to aid in development of automatic and computing devices. Kit also includes a flexure plate and clamp for positioning coils, and a demodulator which converts alternating current output of transformer to direct current voltage. With material in the kit and the information in the 32-page Transducer Handbook provided with it, an engineer is equipped to experiment and develop automatic systems for measurement and control of motion, dimension, flow, pressure, temperature, weight and other quantities. Kit is priced at $189.50 and offered by **Automatic Temperature Control Co.,** 5206 Pulaski Ave., Philadelphia 44, Pa.

▲ For more details circle **NED-203 F7** on enclosed inquiry slip ▲

CIRCUIT TESTER FLASHLIGHT
built to resist rough handling



Heavy duty Ray-O-Vac Workman flashlight, plug-in end cap and attachable tester comprise the N22T continuity tester. Both jack and wire leads are heavily insulated. Spring grip clips are used to make contact. The flashlight lights when a continuous circuit is tested. When the tester jack is unplugged, it can be used as a regular flashlight. Unit is unaffected by common chemicals, has replaceable parts and is resistant to breakage and rough handling. Price is $6.75. Made by **Ray-O-Vac Co.,** Dept. 284, 212 E. Washington Ave., Madison 10, Wis.

▲ For more details circle **NED-204 F7** on enclosed inquiry slip ▲

DFPA TESTED QUALITY

Fir Plywood

LIGHT, STRONG, DURABLE, REAL WOOD PANELS

For: BUILDING AND MAINTENANCE, SHIPPING CONTAINERS, PALLETS, PARTS BINS, PARTITIONS, TANKS, 1000 OTHER INDUSTRIAL USES

MORE versatile than any other material, fir plywood combines the workability of real wood, the economy of large size, the strength and rigidity of engineered panel construction. When you specify DFPA grade-trademarks, you're assured tested quality that meets strict industry requirements.

SEND FOR complete grade, use, specification data

DOUGLAS FIR PLYWOOD ASSOCIATION
Tacoma 2, Wash., Dept. 181 (Good USA Only)
☐ Please send Fir Plywood Purchasing Guide
☐ Information about using plywood for . . .

Name _____
Title _____
Firm _____
Address _____
City _____ Zone ____ State _____

▲ For more details circle **NED-205 F7** on enclosed inquiry slip ▲

work in complete safety
with McGILL® grounded portable lamp guards

Concern for the safety of your workers can be completely satisfied with McGill grounded portables. Their exclusive grounding design provides positive protection against shock not available when ordinary guards wear out, contact exposed wires or are shorted internally. Each model built for three wire cord to accommodate a three blade plug and a built in extension outlet for 2 parallel blades and a 3rd U shaped blade for ground. Especially made for rugged industrial service with molded phenolic handles, extra heavy wire cages, the famous LEVOLIER switch and molded in outlet. Switch and outlet optional.

Available from Electrical Wholesalers

No. 5025-SRG
✱ CONFORM TO NEC
✱ GROUNDING ADOPTED AS STANDARD BY AMERICAN STANDARD ASSOCIATION
✱ UNDERWRITER'S LABORATORIES INSPECTED

WRITE FOR YOUR FREE McGILL CATALOG No. 84

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

▲ For more details circle **NED-206 F7** on enclosed inquiry slip ▲

ANOTHER NEW *Safety-Tested* PENETONE PRODUCT

Cleans and STOPS RUST In One Operation!

NEW **TYPE-R** Cleaner and Corrosion Inhibitor

Excellent on All Metals and Electronic Equipment

Type-R in brush, dip or spray applications cuts the thickest deposits in steel drums, motors, transformers and precision parts. At the same time, the .001-inch thick invisible coating it leaves gives perfect rust protection for months at a time. Completely safe on all metals. Type-R can even be applied to delicate electronic equipment — without damage to connections or insulation! High flash point! Safety-tested at 135° F — considerably reduces the dangers of explosive and inflammable solvents. In addition, Type-R contains no poisonous carbon tetrachloride.

Free sample test Type-R and see for yourself. Mail this coupon today!

The PENETONE Company
74 Hudson Avenue, Tenafly, New Jersey

Liquid and Powdered Detergents and Degreasers • Industrial Strippers • Electrical Equipment Cleaners • Floor Finishes and Waxes • Corrosion Inhibitors • Automotive, Marine and Aircraft Chemicals

Mail Now! FOR FREE SAMPLE TEST

The Penetone Co., Dept. E26, 74 Hudson Ave., Tenafly, N. J.
Without obligation, please rush me all details on Type-R FREE Sample Test.

Name _____ Title _____
Company _____
Address _____
City _____ Zone ____ State _____

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NEW silver brazing REFERENCE BOOK

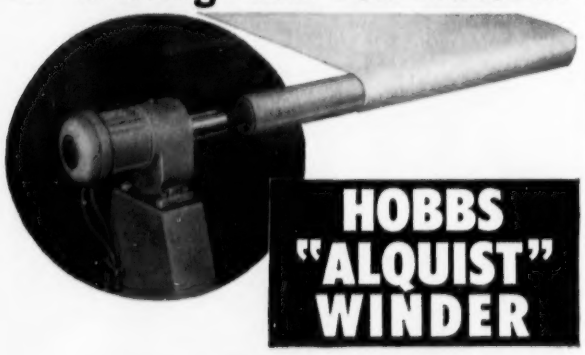
Contains:
- Information on NO-TANGLE — NOTCH COIL RINGS.
- Preform Selection and Simple Ordering Information.
- Charts for Quick Accurate Alloy Calculation.
- Types of Flux and Application.
- Edgewound, Blanked Washers, Preforms, Silver Brazing Alloys and Solders Available.

Send for FREE Copy Today!

LUCAS MILHAUPT Engineering COMPANY
5070 So. Lake Drive, Cudahy, Wis.

For more details circle NED-217 F7 on enclosed inquiry slip

NOW Constant Tension From Start To Finish In Winding Roll-Fed Material



HOBBS "ALQUIST" WINDER

Never Before Anything So Efficient • Simple • Versatile

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "Alquist" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. It can be connected *directly* to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet — no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE From the start to the very finish of your rewind operation, the "Alquist" constantly and accurately maintains the desired tension — protects even the most delicate materials from stretching, breaking or contracting. Automatically the "Alquist" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Controlled tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE The efficiency of the "Alquist" is many times greater than that of other types of winders. Maintenance is as slight as with any normal A.C. motor — there are no brushes or tubes. The "Alquist" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible — connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

MULTIPLE APPLICATIONS. The "Alquist" Winder has already proved its adaptability and efficiency in multiple applications: — for winding, unwinding and inspection of paper, plastics, rubber and woven and non-woven textiles in a wide range of widths and weights.

Find out for yourself just why the Hobbs "Alquist" Winder can make such a big difference — how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

HOBBS MANUFACTURING CO.
41F Salisbury St., Worcester 5, Mass.
EST. 1900 *Send full information on new Hobbs "Alquist" Winder.*

Name ..... *Title* .....
Company .....
Street .....
City ..... *Zone* ..... *State* .....

For more details circle NED-218 F7 on enclosed inquiry slip

CUTOFF TOOLS
have minimum-chatter shanks

Nine standard cutoff tools have lengths from 3½ to 6 in. and varying carbide tip widths. Shanks are of No-Chat, a chatter reducing metal with a density of 0.606 lb per cubic inch which is said to reduce tool vibration up to 50 per cent. Good heat conductivity permits cool running and extends tool life. Shank also makes possible high in-feeds, fast cutting speeds and deep cuts. Made by **Wendt-Sonis Co.**, Dept. NE-1, Hannibal, Mo.

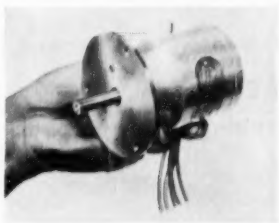
For more details circle NED-219 F7 on enclosed inquiry slip

HOSE SAWING VISE
holds up to 1½-in. wire braid hose

Wire braid hose up to 1½-in. OD is held firmly for smooth cutting with ordinary hack saw by this 384-F multi-use sawing vise. Hose is always cut cleanly and squarely. Minimum wear on saw blade results. Featured is a ratchet-type slide-to-size clamping adjustment. Vise can also be used for cutting 3/16 to 1½-in. OD tubing. Made by **Imperial Brass Mfg. Co.**, Dept. HSF, 1200 W. Harrison St., Chicago 7, Ill.

For more details circle NED-220 F7 on enclosed inquiry slip

SPEED DETECTOR
self-contained, flange-mounted unit



Syncro-Snap centrifugal switch is the sensing element in the Syncro-Pak self-contained and dust-tight speed detecting device. Ball bearing mounted shaft is coupled to the shaft of equipment to be protected or controlled. Detector can incorporate almost any required combination of sensing switches to detect overspeed and underspeed in a narrow or wide range. Applications include indicating drive slippage, actuating magnetic clutches, shifting multispeed transmission gears and controlling various stages on diesel generators. Illustrated two-stage, 5-amp unit limits overspeed and underspeed with tolerance of ±1 per cent. Made by **Torq Engineered Products, Inc.**, 30 W. Monroe St., Bedford, O.

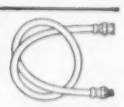
For more details circle NED-221 F7 on enclosed inquiry slip

FLEXONICS CORPORATION now offers FLEX-O-TUBE®

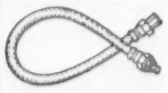
Rubber and Synthetic Hose and Fittings

BULK HOSE
Flex-O-Tube bulk hose is offered in a wide range of types and sizes for handling liquids and air for automotive, aircraft and industrial services.

HOSE ASSEMBLIES
Complete hose assemblies are furnished with a broad choice of standard and special fittings for low, medium and high pressures.



TEFLON HOSE
Teflon hose and hose assemblies are offered for use where chemical and temperature resistance and light weight are required.



FITTINGS
Reusable, pressed on, clamp type, flange type, S.A.E. and special fittings and couplings are manufactured for all services.

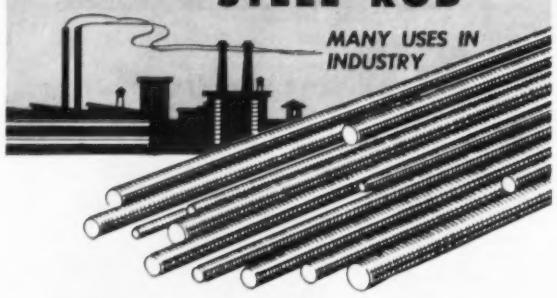
With the acquisition of Flex-O-Tube, Flexonics Corporation now offers the greatest selection of flexible hose of all materials available from one manufacturer.

H-4

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

For more details circle NED-222 F7 on enclosed inquiry slip

INSIST ON SINTZ COLD ROLLED THREADED STEEL ROD



ORDER FROM YOUR MILL SUPPLY HOUSE—INDUSTRIAL JOBBER OR DIRECT FROM

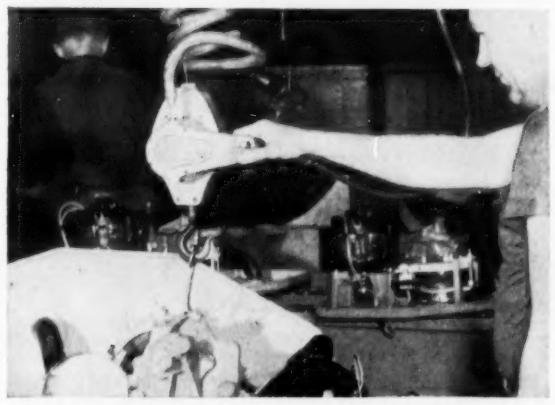
SINTZ threaded steel and non ferrous rod — COLD ROLLED THREADED — BENDS COLD — QUALITY • SERVICE • PRICE — Established 1912

CLAUDE SINTZ INC.
1928 STANLEY AVENUE
DETROIT 8, MICH.

STUDS • FORMED RODS
PIPE PLUGS

For more details circle NED-223 F7 on enclosed inquiry slip

easy does it with this one-hand lift



Keller Tool Air Hoist

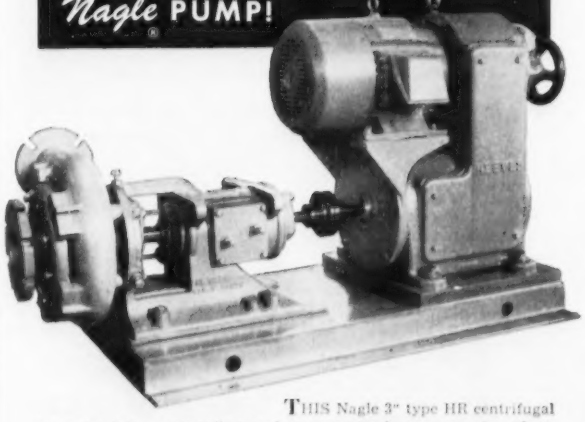
raises and lowers 50 to 150 lb. a full 9 ft. Lifting speed from a slow creep to 40 f.p.m. Leaves one hand free to control parts or machinery. Weighs only 14 lb. Motor won't burn out. Relieves larger hoist for heavier handling.

SEND FOR BULLETIN 86A

ENGINEERING FORESIGHT—PROVED ON THE JOB IN CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY
GARDNER-DENVER
Gardner-Denver Company, Quincy, Illinois

For more details circle NED-224 F7 on enclosed inquiry slip

LIME SLURRY IS "DUCK SOUP" FOR THIS *Nagle* PUMP!



THIS Nagle 3" type HR centrifugal pump is giving outstanding performance at a large processing plant. It handles lime slurry. Variable speed drive for control of volume. The Nagle "H" series—of which the HR is one—is ideal for economically handling abrasive mixtures and slurries, corrosive and hot liquids. Can be placed above or below sump liquid level. Sizes from 1" to 10". Heads to 250'. Capacities to 4000 GPM. Send for data. Nagle Pumps, Inc., 1265 Center Ave., Chicago Heights, Ill.

NAGLE PUMPS

PUMPS FOR ABRASIVE AND CORROSIVE APPLICATIONS

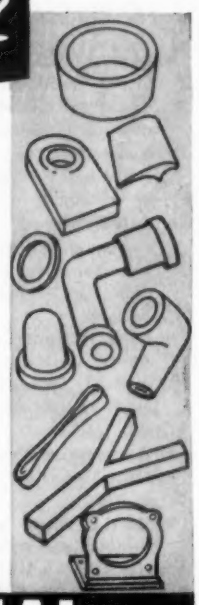
For more details circle NED-225 F7 on enclosed inquiry slip

Silicone

RUBBER PARTS
may be your most efficient, most economical way to:

★ REDUCE FABRICATING COSTS
★ MEET "TOUGH" SPECIFICATIONS
★ IMPROVE PRODUCT QUALITY

Get this free ILLUSTRATED INFORMATION



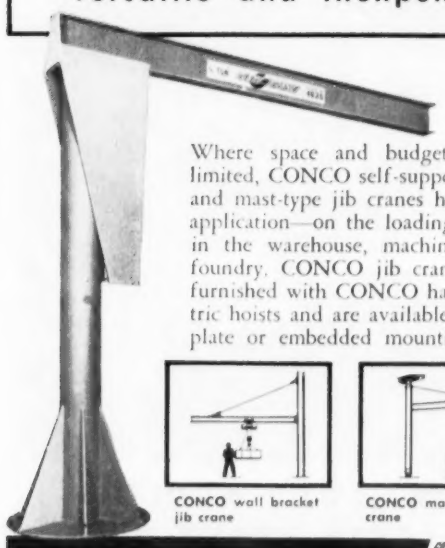
16-page booklet with data insert on Silicone Rubber, tells how this amazing material solves parts problems for manufacturers of many types of products. . . . Contains complete details on Colonial's fast, efficient rubber compounding and molding. Write to:

410-5

COLONIAL RUBBER COMPANY
Ravenna, Ohio

For more details circle NED-226 F7 on enclosed inquiry slip

CONCO JIB CRANES
versatile and inexpensive



Where space and budget are both limited, CONCO self-supporting, wall and mast-type jib cranes have a wide application—on the loading platform, in the warehouse, machine shop or foundry. CONCO jib cranes may be furnished with CONCO hand or electric hoists and are available with floor plate or embedded mounting.

CONCO wall bracket jib crane

CONCO mast-type jib crane

CONCO ENGINEERING WORKS
Division of H. D. CONKEY & COMPANY
57 Grove Street • Mendota, Illinois
AFFILIATES Conco Engineering Works-Domestic Heating Equipment
Conco Building Products, Inc., Brick, Tile, Stone

CRANES HOISTS CONCO

For more details circle NED-227 F7 on enclosed inquiry slip

NOW! Adjustable Diameter and Open
THOMSON BALL BUSHINGS

Precision Series "A" and Low Cost Series "K" BALL BUSHING

Adjustable Diameter BALL BUSHING for Zero Clearance

Open BALL BUSHING for Zero Clearance on Supported Shafts

The BALL Bearing for all your LINEAR MOTIONS

LOW FRICTION · ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE · LASTING ALIGNMENT

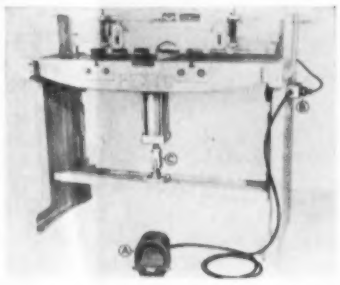
The various types cover a shaft diameter range of ¼" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings
. . . Sleeve Bearings of DuPont NYLON

For more details circle NED-228 F7 on enclosed inquiry slip

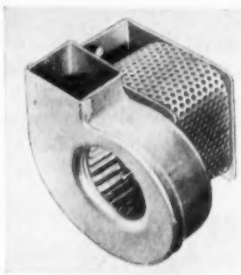
SHEAR POWER KIT
converts foot-operated models



Conversion of foot-operated shears to safe electro-air operation with reduction in operator fatigue is brought about by use of the Trippit power kit. Enclosed electric foot pedal (A) protects against accidental tripping and can be moved as desired. Plug-in outlet (B) is for an electric counter which can be combined with a preset counter to stop the machine. One air hose connection is required for the operating cylinder (C). Installed in less than 1 hour, the device includes a toggle shutoff switch and pilot light. Illustrated model P-137 is for 3-ft shear. Models for other press sizes are available. Made by **General Automation Corp.**, Dept. NED, 100 W. End Ave., New York, N. Y.

For more details circle NED-229 F7 on enclosed inquiry slip

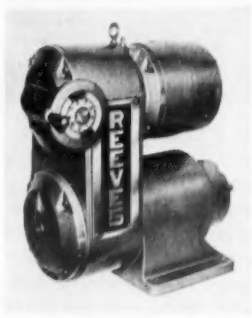
MINIATURE BLOWER
110-v unit delivers 17 cfm of air



Cooling of electronic, photographic and other equipment as well as utility service is function of this packaged blower. Powered by 110-v 60-cycle 10-w ac Barber-Colman motor, it delivers 17 cfm of free air at 3000 rpm. This quiet-running blower weighs only 22 oz. Made by **Minarik Electric Co.**, Dept. 1213, 224 E. Third St., Los Angeles 13, Calif.

For more details circle NED-230 F7 on enclosed inquiry slip

VARIABLE SPEED DRIVES
offered in ratings up to 5 hp

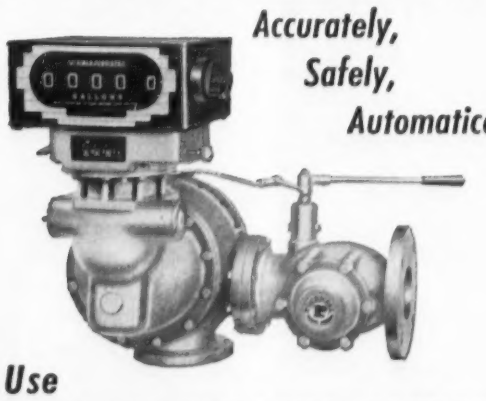


Improved efficiency and extended ratios of speed variation are features of augmented line of Reeves Vari-Speed Motodrives. Each size is available in standard assemblies tailored to fit a wide range of space requirements. Various motor and mounting modifications, as well as remote controls, are also available. Units are offered in integral horsepower ratings up to 5 hp. Made by **Reliance Electric & Engineering Co.**, Dept. SP, 24701 Euclid Ave., Cleveland 17, O.

For more details circle NED-231 F7 on enclosed inquiry slip

HOW TO BATCH OR BLEND LIQUIDS

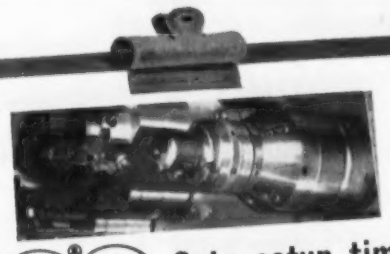
Accurately, Safely, Automatically



Use
ROCKWELL LIQUID METERS
with Automatic Quantity Control Valves

This simple Rockwell system brings *automation* to the liquid process industry. To operate, you pre-set the quantity on the meter register—then open the valve. When quantity is measured, the valve closes automatically *and without shock.* This meter system eliminates human errors in compounding formulas. It's quicker and less costly than batch tanks or weigh scales . . . safer, since a closed metered piping system avoids the hazards of fumes and contamination. Available in stainless steel, bronze, steel or all-iron construction. Get full facts by writing Rockwell Manufacturing Company, Pittsburgh 8, Pa.

For more details circle NED-232 F7 on enclosed inquiry slip



DEKA BORE Cuts setup time 300% at FORD PLANT!

THE PLACE: FORD MOTOR CO., AIRCRAFT ENGINE DIVISION, CHICAGO
THE JOB: BORING HIGH ALLOY STEEL LINERS IN MAGNESIUM HOUSING (36 Rockwell "C")
REPORT BY: TOOL ENGINEERING DEPT.

"Bore diameter tolerance is plus or minus .0003". There's an edge wear of .0001" to .0002" on the tool bit in the initial pass. Before, each final pass took several time consuming adjustments. We changed to a Deka-Bore boring head, and cut setup time 300%, because the Deka-Dial permits positive .0001" adjustment on all settings, in a few seconds. No backlash, either."

Attach this ad to your letterhead for free demonstration or literature!

PRECISION TOOL & MFG. CO. OF ILL.
DEKA BORE 1305 South Laramie, Cicero 50, Illinois

For more details circle NED-233 F7 on enclosed inquiry slip

How to shave tire costs

Want to see a tough test for industrial tires? Here's one—at the plant of a large California steel company. Trucks like this are used to haul steel coils between plant and storage yard—an average of two tons per trip. The entire area is strewn with steel scraps, and the tour of duty is 16 hours a day, five days a week.

The truck in the picture, and five others, roll on Goodyear Industrial Tires that were installed nearly a year ago. Despite the weekly grind, all tires are still in fine condition.

This, of course, represents a big saving in tire costs. And there's a sound reason behind the saving.

These tires are made with *specially developed Goodyear "UN" compound* to give extra resistance to cutting and chipping—even under the severest conditions. UN compound plus Goodyear's famous All-Weather tread have proved the ideal combination for long industrial tire life.

If you have a problem involving industrial tires, why not talk it over with your Goodyear dealer? He can help you by fitting the right tire to the truck—and to the job. Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Look for this sign; there's a Goodyear dealer near you.

Use the Right Tire for the Job—Buy and Specify

GOODYEAR INDUSTRIAL TIRES

GOODYEAR TIRES

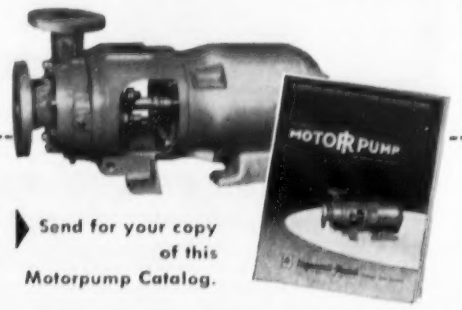
All-Weather—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-234 F7 on enclosed inquiry slip

when you have a liquid-moving problem

Ingersoll-Rand's Motorpump is designed to provide maximum performance in all types of installations. Compact design makes installation easy; balanced, precision construction assures peak performance, smooth operation. From ¼ to 75 hp . . . 5 to 2800 gpm . . . to 650 feet head.

Ingersoll-Rand
11 Broadway, New York 4, N.Y.



Send for your copy of this Motorpump Catalog.

9-499

For more details circle NED-235 F7 on enclosed inquiry slip

SQUARE D
for a COMPLETE LINE of
INDUSTRIAL PRESSURE SWITCHES

Write for Bulletin 9012
Square D Company
4041 North Richards Street
Milwaukee 12, Wisconsin

NOW . . . EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

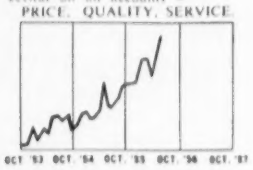
SQUARE D COMPANY

For more details circle NED-236 F7 on enclosed inquiry slip

Does VOLKSWAGEN bother *Cadillac?*

We don't make CADILLAC air cylinders and we don't pretend that we do . . .

We furthermore claim that we work hard to ship from stock and our sales chart tells us that we are being successful on all accounts —



Besides cylinders, we also make the ALLENAIR line of AIR VALVES, AIR CLAMPS and DIAL FEED TABLES and if we could tell you right here all there is to tell you about what we offer and how those products can increase your PRODUCTION at MINIMUM COST we wouldn't need the $1.25 24-page catalogue that is available for free this month to anyone seriously interested.

We do claim that we make very good cylinders at very good prices:

BORE	BASIC PRICE	ADD PER " OF STROKE
1⅛"	$15.50	$.35
1½"	$20.50	$.50
2"	$25.50	$.55
2½"	$29.50	$.65
3"	$32.50	$.95
4"	$47.50	$1.20

P.S.—*The cylinder pictured is a Factory Reject. The only rods available are straight ones and made out of #416 Stainless Steel ground and polished stock and repolished after machining. The bearing is nylon.*

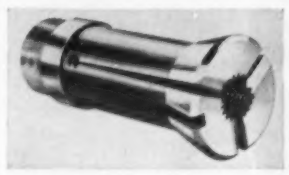
The answer to the question on top of this page is: Not one bit. There is a market for both!

ALLENAIR THE A. K. ALLEN CO.
57 Meserole Ave., B'klyn 22, N. Y.

THE A. K. ALLEN CO. 57 Meserole Ave., Brooklyn 22, N. Y. NED-6
Name _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-237 F7 on enclosed inquiry slip

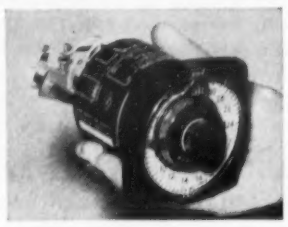
SELF-CLEANING COLLET
design is now optional standard



After extensive production tests, SC self-cleaning collets are being introduced as an optional standard. Angular surfaces ground at end of collet slits act similar to fan blades to repel sludge and chips and also prevent foreign matter from entering the collet and machine mechanism. Live collet action is retained for long period. Made by **Sheffer Collet Co.**, Bay & Wayne Sts., Traverse City, Mich.

For more details circle NED-238 F7 on enclosed inquiry slip

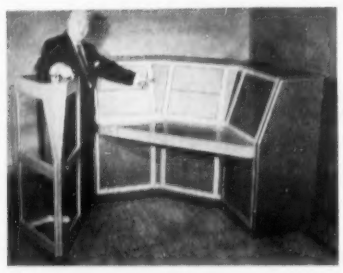
AUTOMATIC RESET TIMERS
operate on 6 to 250 v dc



Automatic emergency generator or motor start-up, gas turbine control or startup of battery-operated equipment are typical uses of this direct current Atcotrol automatic reset dial timer. This model differs from its alternating-current counterpart only in the clutch relay and motor. These are wound to accommodate operating voltages from 6 to 250 v dc. Atcotrol direct-current series 305 timers range in price from $79.00 to $135.00. Made by **Automatic Temperature Control Co.**, 5206 Pulaski Ave., Philadelphia 44, Pa.

For more details circle NED-239 F7 on enclosed inquiry slip

WEDGE-SHAPED CABINET
for instrumentation and control



This wedge-shaped cabinet is designed to join a group of rectangular cabinets or racks into one semicircular unit. Thus, all instrumentation or electro-mechanical equipment housed in the cabinets will be at fingertip control of operator. Combined consoles will fit in room corners, or can be adapted to meet many layout requirements. The Emcor modular enclosure system affords selection from 75 "building block" metal cabinets and 125 subparts to assemble many different enclosures. The new pie-shape heavy gage steel sections are available in 30, 45 or 60 degree units and are made for vertical racks and sloped front or low silhouette consoles. Being cabinets themselves, they provide additional storage space. Made by **Elgin Metalformers Corp.**, Dept. PR-1, 630 Congdon Ave., Elgin, Ill.

For more details circle NED-240 F7 on enclosed inquiry slip

New Parker HOZE-LOK fittings no skiving...easier to use!

- New re-usable *Hoze-lok* fittings for single- and double-wire braid rubber-covered hose are easy to make up. You don't have to strip off the hose cover . . . you can even assemble most sizes with only a hand wrench.
- Two simple steps: (1) dip end of hose in light grease, such as Parker *Threadlube*, and turn counterclockwise into socket; (2) dip nipple in *Threadlube* and screw into socket and hose.
- *Hoze-lok* holds beyond hose-bursting pressures . . . under severe vibration.
- Ask for NO-SKIVE *Hoze-lok* Catalog 4433.

Parker
Hydraulic and fluid system components

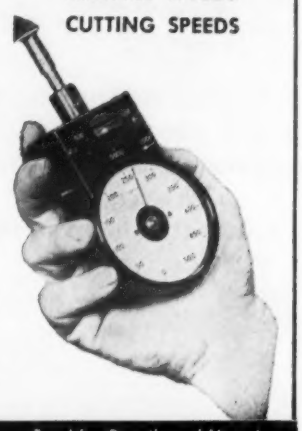
Order from your Parker Distributor — or Tube & Hose Fittings Division, Section 427-Q, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

For more details circle NED-241 F7 on enclosed inquiry slip

SMITHS TACHOMETERS
For Precise and Rapid Measurements of

- **Magnetic Design** Steady readings accurate to ±0.5% at any part of any scale.
- **Instantaneous Reading** No timing or waiting.
- **Self-Powered** Needs no battery. Always ready for immediate use at full accuracy.
- **Nine Ranges** To 50,000 rpm on highest. Interpolate tenths of rpm on lowest.
- **Overspeed Protection** Inherent and built-in.
- **Hold Button** "memorizes" reading when desired.

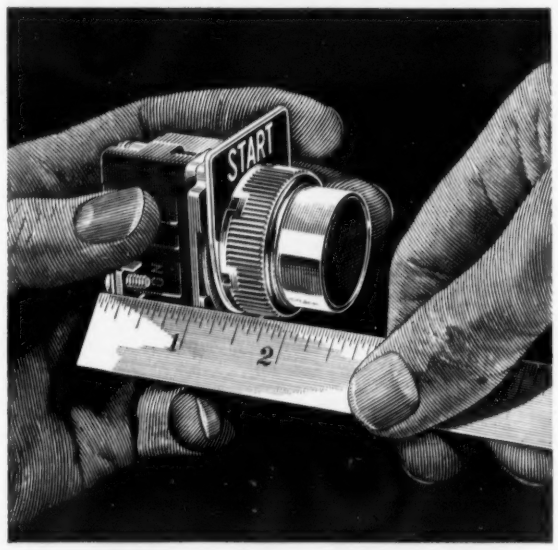
SHAFT SPEEDS
SURFACE SPEEDS
CUTTING SPEEDS



Complete Service Facilities — Send for Details and Literature
CLARENCE J. MARX CO.
Box 4033, Cleveland 23, Ohio

For more details circle NED-242 F7 on enclosed inquiry slip

WHAT'S NEW IN MOTOR CONTROL?



NOW . . . THE WORLD'S SMALLEST HEAVY DUTY PUSHBUTTONS

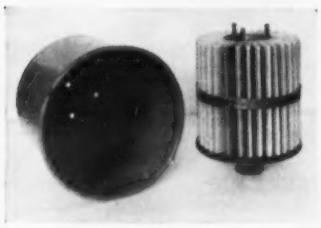
These new pushbutton units surpass anything ever before available to serve the needs of design engineers and machinery builders. They are amazingly compact; require the least back-of-panel depth. They are one-hole mounting and oil tight. They easily provide as many as eight completely isolated heavy duty contacts in any combination of NO or NC per button for almost unlimited circuitry. Buttons may be flush, extended, or mushroom head types; in all desired colors. Easy to install maintained-contact units. Knob and key operated selector switches. Indicating lights to match. Be sure you have complete data; write now on company letterhead for Pushbutton handbook Pub. EL-178 . . . CUTLER-HAMMER, Inc., 1377 St. Paul Avenue, Milwaukee 1, Wis.

CUTLER-HAMMER
MOTOR CONTROL
C-H

GET IT FIRST IN CUTLER-HAMMER

For more details circle NED-243 F7 on enclosed inquiry slip

NEW DRY TYPE AIR FILTERS
for engines, compressors, blowers and other industrial applications

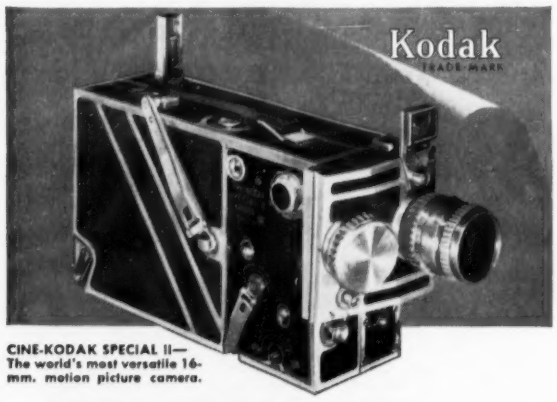


• Designed for specific applications, the new Air-Maze Dry Type filter is particularly suitable where 1.) oil free air is required, 2.) an extremely high degree of filtration is required, 3.) the air velocity varies from one period to another and, 4.) the dirt concentration is relatively low, except when vibration is present to help dirt removal.

The Air-Maze Dry Filter is one of the most efficient mechanical type filters available. Laboratory tests indicate better than 98% efficiency with particles of 2 micron mean diameter and practically 100% efficiency with particles of 5 microns or larger.

The Air-Maze Dry Filter type DA employs a special highgrade felt filtering media arranged in deep pleats to provide extended area, and armored on both sides by heavy galvanized cloth. Heavy gauge perforated tubing inside the media and a metal strap on the outside form a rigid unit of great strength and are corrosion protected. Made in sizes from 20 cfm to 6650 cfm. Catalog DA-1056 available. Write **AIR-MAZE CORPORATION,** Cleveland 28, Ohio. *(Advt.)*

▲ For more details circle **NED-244 F7** on enclosed inquiry slip ▲



CINE-KODAK SPECIAL II—The world's most versatile 16-mm. motion picture camera.

Make movies that work for you!

In almost every industrial activity—engineering, manufacturing, employee training, research, safety and methods evaluation—in-plant movies are the fastest, easiest, and most effective method for putting across your story.

And for on-the-job movie making, many leading industrial companies have chosen the Cine-Kodak Special II Camera. It has the versatility to handle almost any type of job. Yet its simplicity of operation enables you to get high-caliber results almost as easily as taking home movies.

WRITE FOR FREE BOOKLET, V1-3, describing the Cine-Kodak Special II.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

▲ For more details circle **NED-245 F7** on enclosed inquiry slip ▲

Compactness . . . it's the big difference in

LINK-BELT geared flexible couplings

Compactly designed Link-Belt geared flexible couplings weigh less . . . cost less . . . have greater bore capacity than other comparable flexible couplings. Also, they're exceptionally rugged . . . capably handle shock, pulsation, reversing loads. For facts, contact your Link-Belt sales office or authorized stock-carrying distributor. Or write for Folder 2775.

LINK-BELT

GEARED FLEXIBLE COUPLINGS

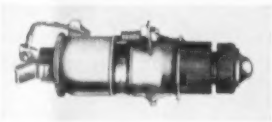
POPULAR-SIZED, finished-bore geared flexible couplings are available packaged, ready for installation.

LINK-BELT COMPANY: Dept. N. E. D., Prudential Plaza, Chicago 1, Ill.

14,580

▲ For more details circle **NED-246 F7** on enclosed inquiry slip ▲

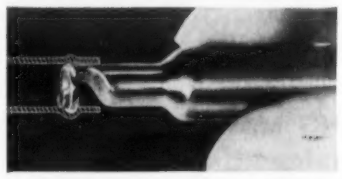
INDICATOR LAMPS
for switchboard, power supply use



Protective coatings that resist severe marine, tropical and atmospheric conditions are incorporated in indicator lamp assemblies for mounting in 21/32-in. holes in panels up to ¼-in. thick. They are suited for power switchboards, electronic power supplies and various types of control panels. Assemblies consist of 24-v slide-base telephone switchboard type lamp, plug-in housing, tubular resistor, bezel and color caps in red, green, amber, blue or white. Resistors make possible operation on up to 250 v. Assembly is 4¼ in. long and 1 1/16 in. diameter. Made by **Federal Pacific Electric Co.,** Eastern Switchgear Div., 880 N. Keyser Ave., Scranton, Pa.

▲ For more details circle **NED-247 F7** on enclosed inquiry slip ▲

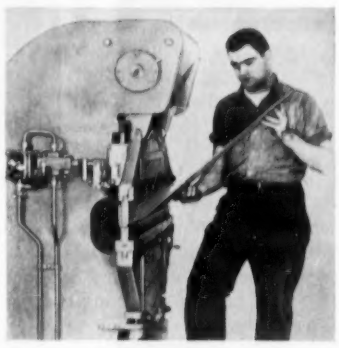
FLEXIBLE TUBING FITTING
designed for ease of installation



A joint as strong as the tubing itself is reported for the Danco fitting for flexible tubing. It is especially easy to install in plastic and rubber tubing. Elbow, tee, 90-degree or special fitting is merely slipped on tube. Using ring holder as shown, a noncorrosive ring is inserted in the tube. Tightening the molded nylon fitting assures a strong leakproof joint. Made by **Danielson Mfg. Co.,** Danielson, Conn.

▲ For more details circle **NED-248 F7** on enclosed inquiry slip ▲

PRESS BRAKE ACCESSORY
eliminates metal sheet whipping



Whipping and resultant kinking of sheet material during forming operations is eliminated by the Let-up Control for hydraulically operated Di-Acro press brakes. Long sheets are handled safely because speed of ram is reduced up to 50 per cent just prior to time the ram die makes contact with the material to be formed. Form part of stroke is at slow speed, while return stroke is at maximum speed. Adjustment is made on calibrated gage mechanically linked to two-way valve which opens and closes to allow hydraulic oil to flow through flow-control valve. Made by **O'Neil-Irwin Mfg. Co.,** 582 Eighth Ave., Lake City, Minn.

▲ For more details circle **NED-249 F7** on enclosed inquiry slip ▲

stop!
HIGH BENDING COSTS

Multiple bending on Pedrick Production Benders can materially cut costs on all bending operations for pipe tube or structural metal.

Prove it. Write us your particular problem. Let us supply the cost-cutting answer in terms of pennies per bend. PEDRICK TOOL AND MACHINE CO., **Dept. 6,** 3640 N. Lawrence St., Philadelphia 40, Pa.

FREE "PEDRICK LINE" BULLETIN. WRITE TODAY.

PEDRICK production benders

▲ For more details circle **NED-250 F7** on enclosed inquiry slip ▲

DEGREASER!
machinery shampoo

SPRAY OR BRUSH ON . . .

Takes cling out of oil and grease . . . emulsifies it . . . so that all dirt may be hosed off. Launders engines, lathes, machinery, faster, more completely than steam cleaning. Self scouring action brings out factory new appearance . . . provides accurate visual inspection. Where work will not withstand the use of water for rinsing, we can recommend suitable GUNK replacement. (GUNK is also an excellent paint brush cleaner.) Shipped in concentrated form . . . 55 gal. drum makes 500 gals. heavy-duty Degreaser! Genuine GUNK is sold in bulk sizes at better industrial wholesalers everywhere!

IMMEDIATE DELIVERY 1 PINT OR A TANK CAR

CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

(CHICAGO PLANT) GUNK CHICAGO CO. • CHICAGO 38, ILL. • (LICENSEE)

▲ For more details circle **NED-251 F7** on enclosed inquiry slip ▲

ALBION
INDUSTRIAL CASTERS

Immediately available in a broad range of sizes, types and capacities to meet every conceivable industrial application.

Specify Albion, when you need rugged dependability, complete protection . . . plus amazing economies.

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

▲ For more details circle **NED-252 F7** on enclosed inquiry slip ▲

Users tell the Speed-Patch story best with orders for more . . . year after year. Why not take advantage of the experience of others and make ready-mixed Speed Patch your standard floor repair. Sets immediately. Heavy loads truck over each patch without waiting.

Write for Details

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

For more details circle NED-253 F7 on enclosed inquiry slip

SOLVE YOUR Packaging Problems with LERMER PLASTIC CONTAINERS!

Lermer's Ingenuity Can Give You— Years-Ahead Packaging For Your Products

Example:

E. R. Squibb & Sons desired a container which would dispense just one capsule at a time. LERMER engineers developed such a dispenser in record time . . . at a price far lower than thought possible.

LERMER Containers:

- are shatterproof, assuring long life.
- are 75% lighter than glass, effecting enormous savings in shipping.
- are available clear or opaque in a multitude of lustrous colors.
- can be handsomely decorated and printed during manufacture to carry your story.

Write for complete catalog.

LERMER PLASTICS, INC. 514 South Ave. Garwood, N. J.

REPRESENTATIVES IN THESE CITIES: Rochester, Philadelphia, Memphis, Miami, Cincinnati, Columbus, Cleveland, Chicago, Detroit, Minneapolis, San Francisco, Los Angeles.

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS

For more details circle NED-254 F7 on enclosed inquiry slip

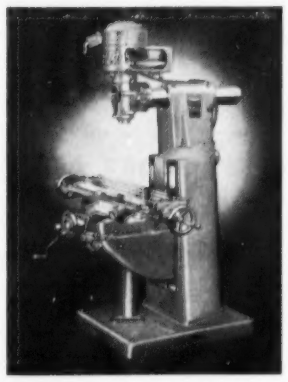
PRE-ENGINEERED BUILDING is of low-profile wide-span design

Low pitch steel framework employed in the Butler Building System of pre-engineered metal buildings is strong enough to span floor areas up to 100 ft wide

without using interior posts or roof trusses. Buildings have a roof pitch of 1-in-12 which imparts the appearance of modern flat-roof design, yet retains the advantages of a gable roof. Open interiors permit unrestricted layout planning, partitioning, illumination, heating and decoration. Steel frames are pre-engineered and mass produced to fit together easily and fast. Exterior walls can be metal or other materials including large expanses of glass. Exteriors can be architecturally planned to suit preference of the owner for harmony with use, character of building and the surroundings. Made by **Butler Mfg. Co.,** 7475 E. Thirteenth St., Kansas City 26, Mo.

For more details circle NED-255 F7 on enclosed inquiry slip

VERTICAL MILLING MACHINE ¾ or 1-hp motor afford spindle speeds up to 2500 and 3750 rpm



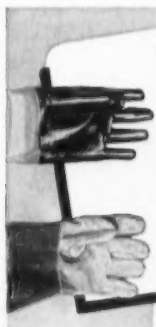
Head of improved vertical spindle precision milling machine swivels 360 degrees on the flanged end of the overarm for milling, drilling or boring at any angle. A key prevents overarm from turning in column bearing so that head can be moved transversely without affecting angular setting of head. Overarm has 15 in. rack and pinion cross movement.

Base of machine has been enlarged and reinforced for greater rigidity, and table feed screws have large handwheels in place of ball cranks. Dual controls permit operating table from either end. Table is 9 in. wide and is offered in 32 and 42 in. lengths, providing 20 and 30-in. longitudinal travel respectively. Vertical adjustment of table is 18 in.

Spindle has No. 30 milling machine taper with ¾-in. collet capacity, while individual tool holders have up to 1-in. capacity. It has 4-in. vertical travel with lever for rapid movement and handwheel for slow feed. With ¾-hp, 1200-rpm motor, eight spindle speeds from 90 to 2500 rpm are provided. A 1-hp, 1800-rpm motor provides speeds from 135 to 3750 rpm. Made by **South Bend Lathe Works,** 307 E. Madison St., South Bend 22, Ind.

For more details circle NED-256 F7 on enclosed inquiry slip

DON'T throw away WORN OUT GLOVES!
PLASTIC • LEATHER • FABRIC
Check GLOVCO first!



GLOVCO'S service makes worn out gloves safe and good as new at fraction of original cost.

• Yes, before you throw away your old worn out gloves, check GLOVCO'S nationwide service first! GLOVCO is saving industry up to 90% on gloves they once threw away. GLOVCO reclaims worn dirty plastic, leather and fabric gloves, welder's gloves, mitts, hand pads. Also hot mill, terry cloth, asbestos aprons and gloves, sleeves, drop cloths, protective clothing, etc. GLOVCO service is used in thousands of plants from coast-to-coast. Write for details and FREE trial demonstration. Satisfaction guaranteed.

GLOVCO also offers a variety of NEW GLOVES at great savings.

U.S. INDUSTRIAL GLOVE CORP.

9350 Roselawn Ave. Detroit 4, Mich. | 1920 Rose St. Pittsburgh 19, Pa. | 2646 N. Figueroa St. Los Angeles 65, Calif.

For more details circle NED-257 F7 on enclosed inquiry slip

get the facts on Silicone Based Paints

. . . to improve product finishing . . . reduce maintenance costs

Send for this brochure and list of leading manufacturers of paints formulated with Dow Corning Silicones.

first in silicones

Address Dept. 5418

Dow Corning Corporation
MIDLAND, MICHIGAN

For more details circle NED-258 F7 on enclosed inquiry slip

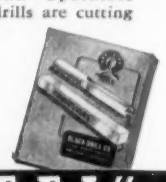
Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It— With "HARDSTEEL"



BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

For more details circle NED-259 F7 on enclosed inquiry slip

Loosens rusty nuts, bolts, couplings

SAVES Time • SAVES Labor
SAVES Expense of Broken Parts

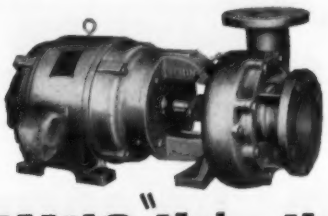
- Quickly cuts rust, gummed-up oil and grease, hardened paint
- Penetrates the tightest places. Tasgon comes in handy "tool-kit-size" 3 ounce cans; pints, quarts and gallons. Send for sample.

the penetrating rust solvent

Samuel Cabot

SAMUEL CABOT INC.
632 Oliver Bldg., Boston 9, Mass.

For more details circle NED-260 F7 on enclosed inquiry slip



DEMING "Motor-Mount" CENTRIFUGAL PUMPS

USES: Pumping a wide variety of non-corrosive liquids in manufacturing, chemical, paper, construction and other industries. (Applications where corrosive, high pressure, high temperature, or "questionable" liquids are encountered should be referred to your Deming Distributor, or to us.)

SIZES: 1"— 1½"— 2"— 2½"— 3"— 4"— 5" discharge. (2"— 2½"— 3"— 4"— 5"— 8" suction.)

CAPACITIES: 40 through 1200 gallons per minute.

MOTORS: Standard drip-proof, moisture-insulated, fan-ventilated type . . . 1 through 30 horsepower.

FEATURES: Fully illustrated and explained in a free, 8-page, 2-color bulletin.

Ask for Bulletin 4200
Includes details on construction features, materials of construction, mechanical shaft seals, performance tables and curves, and dimensions. Write to:

THE DEMING COMPANY
520 Broadway • SALEM, OHIO

For more details circle NED-261 F7 on enclosed inquiry slip

A HANDY GUIDE FOR SELECTING THE RIGHT O-B GATE VALVE

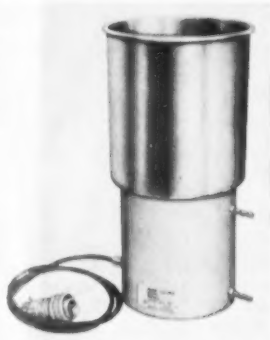
This free folder charts O-B Gate Valves by sizes, pressure ratings, pipe end types, and stem designs. Contains a number of hints on how to reduce installation problems and cut future maintenance costs when picking gate valves. Write today for folder 1323-Vr.

4731-V

O-B VALVES Ohio Brass MANSFIELD OHIO, U. S. A.

For more details circle NED-262 F7 on enclosed inquiry slip

ULTRASONIC CLEANER for hard-to-clean places and parts



Continuous cleaning of meters, precision parts and other complex or delicate parts and assemblies is function of model 3009 ultrasonic cleaner. It eliminates need for disassembly of certain parts and efficiently cleans blind holes and intricate passages. Oxides can be removed from various metals for fluxless soldering. Unit operates 250-w or larger generator, is water cooled and has a 1-gal, 7½ x 6½-in. stainless steel tank. Transducer and tank are separate units. Made by **Alcar Instruments, Inc.**, Dept. NED, 17 Industrial Ave., Little Ferry, N. J.

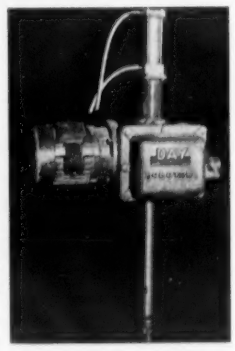
For more details circle NED-264 F7 on enclosed inquiry slip

PORTABLE STROBOSCOPE has 10-microsecond white flash

Rotary, reciprocating or repetitive motion can be checked with this portable miniaturized true-color stroboscope. Its high intensity white light has a flash duration of 10 microseconds and a light output of 5 lumenseconds. Repetition rate is 0 to 100 pulses per second. Portable unit is 5¾ x 6 x 5 in. Made by **Western Gear Corp.**, Box 182A, Lynwood, Calif.

For more details circle NED-265 F7 on enclosed inquiry slip

DRILLING & TAPPING UNIT includes motor, drive and controls



Robotorq heavy duty self-contained unit performs drilling, boring, tapping, counterboring, step drilling and other operations. Packaged unit includes motor, drive and controls housed in a flange-mounted, sealed case. It has a stroke from 6 in. up and delivers from 35 to 4000 lb-ft torque. Built-in torque limit protects machine and work, while a signal warns of dull or broken tools. Reversing mechanism automatically counts revolutions, backs out tap and clears the piece. This packaged unit for automation setups can be mounted in any position to suit requirements. Made by **George L. Day Co.**, 1231 Niagara St., Buffalo 13, N. Y.

For more details circle NED-266 F7 on enclosed inquiry slip

put Vibration to useful work

JEFFREY Electric Vibrating Feeders solve many problems of conveying solid materials—fine powders or huge stone blocks, a few ounces to two thousand tons per hour, dripping wet or bone dry, at temperatures ranging from 30° below zero to 2,000° above.

Balanced vibration in a Jeffrey electric or mechanical vibration system makes it economical to operate, easy on maintenance. Catalog 870 describes the complete line of Jeffrey Vibrating Equipment.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY, COLUMBUS 16, OHIO

For more details circle NED-267 F7 on enclosed inquiry slip

For long life under extreme conditions of shock, vibration, corrosion, humidity and temperature

Bendix W TYPE

HEAVY-DUTY ELECTRICAL CONNECTOR

Intended for use with jacketed cable and not requiring ground return through mating surfaces, this connector incorporates sealing gaskets at all mating joints.

W-Type Bendix* Connectors also incorporate standard Scinflex resilient inserts in established AN contact arrangements. Shell components are thick sectioned high-grade aluminum for maximum strength. All aluminum surfaces are grey anodized for protection against corrosion.

It will pay you to remember that for the really tough jobs, where ordinary electrical connectors just won't do, be sure to specify the W-Type Connector.

Complete specifications and details on request.

*TRADE-MARK

Bendix SCINTILLA DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales and Service: Bendix International Division, 205 East 42nd St., New York 17, N. Y.
FACTORY BRANCH OFFICES:
117 E. Providencia Ave., Burbank, Calif. • Paterson Building, 18038 Mack Ave., Detroit 24, Mich. • 545 Cedar Lane, Teaneck, N. J. • 5906 North Port Washington Rd., Milwaukee 17, Wisc. • Hulman Building, 120 W. Second St., Dayton 2, Ohio • 2608 Inwood Road, Dallas 19, Texas • Boeing Field, Seattle 8, Washington • 1701 "K" Street, N.W., Washington 6, D. C.

For more details circle NED-268 F7 on enclosed inquiry slip

Switch TO CINCINNATI HYDRAGUIDE TRACER LATHE

for lowest-cost parts duplication . . .

Hydraguides are built in 15" and 18" swing sizes and a wide variety of center distances. Tracer mechanism is also available for 15" and 18" Model LE Tray-Top engine and toolroom lathes now in service.

Just push the button on these new Cincinnati Hydraguides® to provide lowest-cost tracer machining . . . yet, there is no interference with standard lathe operation.

The entire tracer mechanism is on the carriage—no added floor space is required. All controls, template and tool are on the front side for maximum safety and convenience.

With all the proven Tray-Top features—PLUS an increase to 5 HP— it's *still* an ECONOMY-PRICED lathe.

See your C L & T Dealer. Write today for catalog H-150.

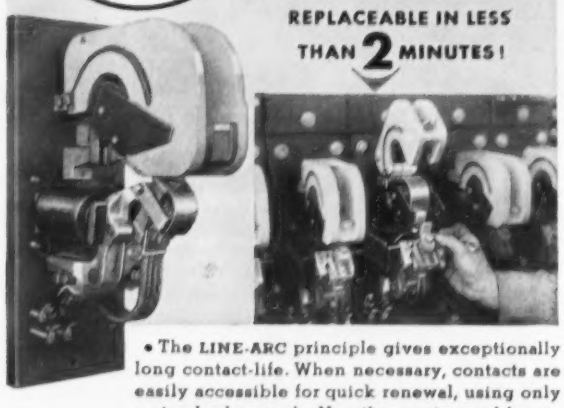
CINCINNATI LATHE AND TOOL CO.
3207 Disney Street, Cincinnati 9, Ohio
Engine, Toolroom, Tracer and Fixed Gap Bed Lathes and a Complete Line of Drilling Machines.

For more details circle NED-263 F7 on enclosed inquiry slip

for EASIER Maintenance

EC&M LINE-ARC® CONTACTORS

FRONT AND REAR CONTACTS REPLACEABLE IN LESS THAN 2 MINUTES!



• The LINE-ARC principle gives exceptionally long contact-life. When necessary, contacts are easily accessible for quick renewal, using only a standard wrench. No other parts need be removed first. *Write for Bulletin 1145*

THE ELECTRIC CONTROLLER & MFG. CO.
A DIVISION OF THE SQUARE D COMPANY
CLEVELAND 28 • OHIO

For more details circle NED-270 F7 on enclosed inquiry slip

Take the danger out of this zone!

BULLARD

Truck Safety Steps

Statistics prove 40% of truck accidents occur in this zone, where trucks are loaded and unloaded. Low cost, Bullard safety truck steps make this area as harmless as your own front steps. They speed handling, and reduce worker fatigue. Permanent installation can be made by bolting or welding to truck frame. When not in use, step folds flush to rear of truck . . . or, if truck backs into loading platform with step down . . . it automatically retracts without damage. Special non-skid treads — side latch locks step in place.

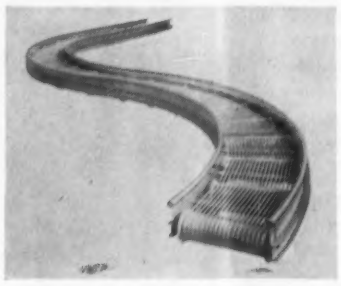
Write for technical literature

BULLARD
INDUSTRIAL SAFETY EQUIPMENT

E. D. BULLARD COMPANY, Sausalito, California

For more details circle NED-271 F7 on enclosed inquiry slip

CURVED POWER CONVEYOR
made to follow any contour



Bags, cartons, bundles or packages are carried around turns of any length by this power driven fixed-curve conveyor. Using spring steel belt in 18, 24 and 32-in. widths, conveyor can also be supplied with compound curves. Instantly reversible, it has one belt roller for each 10 degrees of curvature and requires only 7 in. of headroom. Curved sections can be combined with straight power conveyor sections. Made by **Power-Curve Conveyor Co.,** 2179 S. Jason St., Denver 23, Colo.

For more details circle NED-272 F7 on enclosed inquiry slip

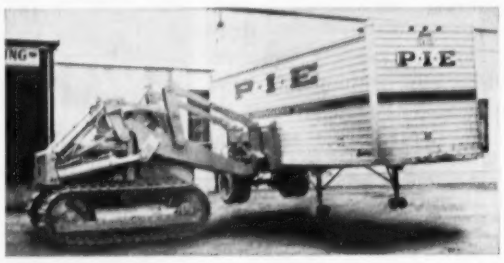
NARROW TAPE RULE
is compact and fits in pocket

About the diameter of a silver dollar and light in weight, Executive Thinline tape rule has a ¼-in. wide blade. Smooth chrome-finished steel case and compactness adapt it for carrying in pocket. The 6-ft length retails for $1.50 and the 8-ft model is $1.75. Made by **Lufkin Rule Co.,** Hess St., Saginaw, Mich.

For more details circle NED-273 F7 on enclosed inquiry slip

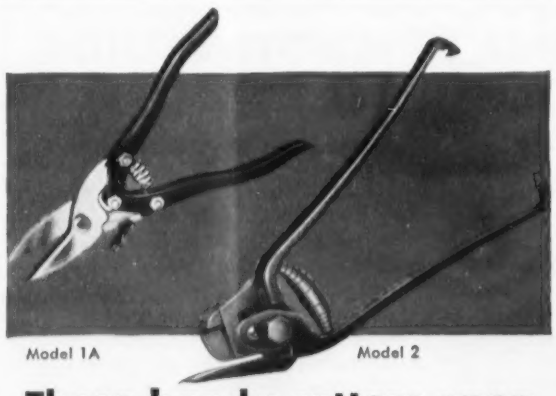
TRACTOR-MOUNTED FORK LIFT
lifts 15,000 lb to height of 14 ft

Fork lift with hydraulically operated four-way tilting and leveling is an attachment for the torque converter-equipped 145-hp Eimco model 105 crawler



tractor. Capable of lifting 15,000 lb to a height of 14 ft, it has operator seat at the front for good visibility. Unidrive transmission with independent track reversal for spin turns provides maneuverability. Fork lift incorporates a tilting mechanism and its tines are movable to fit various bin, pallet or bundle widths. It is interchangeable with the Eimco front-end loader attachment. Made by **Eimco Corp.,** 602 S. Fourth West St., Salt Lake City 1, Utah.

For more details circle NED-274 F7 on enclosed inquiry slip



These handy cutters open strapped containers fast

These Signode strap cutters save a lot of time in receiving and shipping rooms. The inexpensive Model 1A cuts all sizes of steel strapping up to and including ¾" x .023"; Model 2 cuts all sizes up to and including ¾" x .035". The extended lower lip of Model 2 slips easily under tightly tensioned strapping on boxes, crates and bundles. Other cutters for strapping up to 2" x .050. For details and prices, write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-275 F7 on enclosed inquiry slip

Veelos Knocks Out Belt Vibration... Up To 90%!

HERE'S PROOF! With an electronic vibration analyzer, your Manheim Veelos representative can measure the exact vibration in your machines. This test is absolutely free and is offered as conclusive proof that Veelos Adjustable V-Belts are better for your drives.

TEST YOUR BELTS! Test Veelos belts against the V-belts you're now using—convince yourself, in this 15 minute test, that Veelos cuts V-belt vibration up to 90%. Smooth running Veelos saves you money by cutting down bearing wear, work spoilage, etc.

Write for free Vibration Demonstration or Free Veelos Data Book to:

MANHEIM
MANUFACTURING & BELTING CO.
605 Stiegel St., Manheim, Penna.

VEELOS THE BALANCED LINK V BELT

Veelos is known as Veelink outside U.S.A.

For more details circle NED-276 F7 on enclosed inquiry slip

FREE SAMPLE!

FLEXIBLE, LIQUID-TIGHT CONDUIT OUTLASTS ORDINARY METAL CONDUITS

Sealtite* flexible, liquid-tight electrical conduit is rapidly replacing rigid conduit in many plants for certain installations. It's easier, less costly to install (especially in cramped spaces) and actually outlasts ordinary metal conduits in moist or corrosive atmospheres. A tough, extruded polyvinyl jacket seals out water, dust and corrosive fumes . . . protects wiring from weather, oil and chemicals. Sealtite can be installed indoors or out; is ideal where conduit must flex or be moved, absorb vibration or meet misaligned outlets. Write for free sample and Booklet S-537 giving full information. Address: *The American Brass Company, American Metal Hose Division, Waterbury 20, Conn.*

*Trademark 67197

SEALTITE flexible, liquid-tight conduit . . . AN ANACONDA® PRODUCT

For more details circle NED-277 F7 on enclosed inquiry slip

THE Sutton MOTOR DRIVEN PRESSURE BLOWER

THE WORLD'S Most Dependable PRESSURE BLOWER

THREE SIZES ¼, ½, 1 H.P.

USED FOR EXHAUSTING DUST, SMOKE, FUMES, VAPOR . . COOLING AND DRYING . . CONVEYING COTTON, WOOL, SHAVINGS . . FORGE BLASTING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY to reduce weight and increase strength. CENTRIFUGAL TYPE. Delivers even, non-pulsating flow of air. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-278 F7 on enclosed inquiry slip

AUTOMATION *Applied to* MATERIALS HANDLING

Illustrated is a Tramrail carrier with two buckets that delivers materials automatically from first floor to any of 15 bins as pre-selected on third floor, empties and returns.

Automatic Tramrail Systems Pay Big Dividends

Automation as applied to overhead materials handling is not new or magic to Cleveland Tramrail. A wide variety of automatic Tramrail Systems are in use. They deliver materials to one or many stations, empty and return without operator accompanying. Savings are large—usually pay for the system in 12 to 18 months.

AUTOMATIC DISPATCH SYSTEMS

GET THIS BOOK
Consider ways of handling your materials automatically

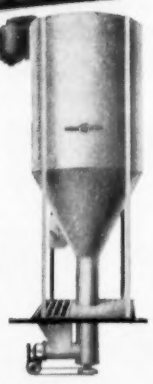
CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6646 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-279 F7 on enclosed inquiry slip

CUT MIXING COSTS!

SPROUT-WALDRON
VERTICAL MIXERS



These mixers handle an amazingly wide variety of materials with less horsepower, less floor space, less maintenance, less first cost than any other type of mixers. Sizes up to 1500 cu. ft. can operate on as little as 30 h.p. They're completely self-cleaning. Ideal for use as agitated storage reservoirs.

Write for Bulletin 97

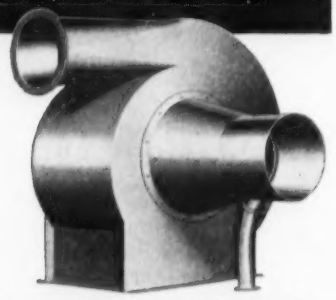
Sprout-Waldron also offers a complete line of horizontal mixers. Write for details.

IN/503

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

For more details circle NED-280 F7 on enclosed inquiry slip

COLLECT COARSE DUST with the AAF SKIMMER PRE-CLEANER



Requires **50%** less space than a cyclone!

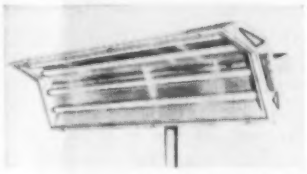
AAF's Skimmer Pre-cleaner is made-to-order for collecting coarse dust particles in large concentrations. The rugged, steel-plated Skimmer (including dust storage hopper) requires only one-half the space of a conventional low-pressure-drop cyclone.

Dirty air enters the body of the Skimmer through a tangential inlet. Dust particles are thrown to the outside walls by centrifugal force, then skimmed into the hopper. Straightening vanes in horizontal outlet permit close-coupled connection to exhauster. Write for complete information.

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-281 F7 on enclosed inquiry slip

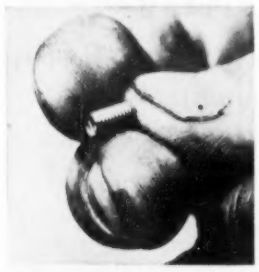
FLUORESCENT FLOOD LAMP
suited for outdoor applications



Floodlighting of industrial parking lots, outdoor storage areas and loading platforms are typical industrial uses of this Directo-Lume fluorescent floodlight fixture. Constructed of aluminum, the fixture is of the rapid-start type. It is readily adjusted to direct light as required, and is wired through a weather-proof inspection plate. Light loss is held to minimum. Made by **Whiteway Mfg. Co.**, 1736-A Dreman Ave., Cincinnati 23, O.

For more details circle NED-282 F7 on enclosed inquiry slip

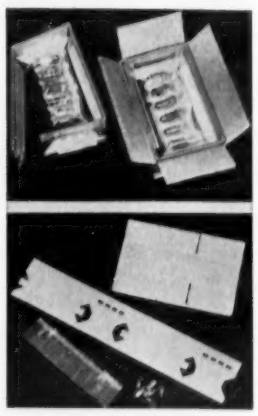
MINIATURE LOCKING INSERTS
used in small subassemblies



Miniaturized Screw-Lock 4-40 series self-locking wire thread inserts provide an answer to fastening problems in miniature subassemblies where clearance or inaccessibility does not permit use of an external locking device. Locking effect of gripping coil remains through repeated cycles of disassembly. Made of stainless steel, insert provides strong, wear-resistant threads in light metals, plastics, steel and cast iron. Made by **Heli-Coil Corp.**, 1476 Shelter Rock Lane, Danbury, Conn.

For more details circle NED-283 F7 on enclosed inquiry slip

SHIPPING CARTON
for fragile products, absorbs shock



Fragile products cradled in this shock-absorbing shipping carton are sealed into a hammock of film to protect them from damage. Package consists of die-cut corrugated cardboard insert, the "swing" or tube of Bakelite polyethylene film with a self-locking closure, and a cardboard carton made to close tolerances. Die-cut fingers in the insert grip ends of the tube firmly, allowing center portion to swing free if carton is moved sharply. Individual pockets can be formed in the tube to prevent delicate parts from jostling and breaking each other. Closure along edge of tube seals out moisture, dust or dirt. Made by **Polyfab Co.**, Dept. N, 3511 Eagle Rock Blvd., Los Angeles 65, Calif.

For more details circle NED-284 F7 on enclosed inquiry slip

POTDEVIN CAN SOLVE YOUR SPECIAL GLUING or COATING PROBLEM

Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation.

Illustrated is a topside or underside coating machine for applying resins, varnish, glues, lacquer, etc. to webs or sheets of paper up to 21"

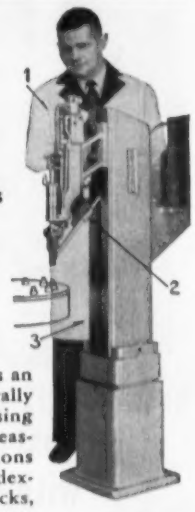
If your problem is high speed coating of paint, varnish, glue, latex, etc. —POTDEVIN's sixty years of specialization in coating equipment can quickly help you solve it . . . guaranteeing initial low cost and top efficiency.

ESTABLISHED IN 1895
POTDEVIN
POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

For more details circle NED-285 F7 on enclosed inquiry slip

New Standard
DIXON
"Auto-Positioner"

Simplifies Small Parts Assembly Operations at Rates Up To 7200 Per Hour



New Dixon "Auto-Positioner" combines three standardized units — (1) Automatic Escapement, (2) Automatic Air-Operated Positioner, (3) Mounting Structure — and now provides an economical solution to assembling a variety of small parts. It has an exclusive sensing feature that automatically stops your machines when parts are missing or malformed. "Auto-Positioners" are easily arranged at single or multiple stations with feeders, feed tracks, transfer or indexing tables. With properly tooled chucks, positioning punch, and proven feeder, parts are positioned at rates up to 7200 pieces per hour. Individual units or any combination of standard components available from stock. Tooled "Auto-Positioners" provided to suit needs.

Adapted to parts 1/16" to 3" O.D. Locates on adjacent stations 3" apart, or on 12-station dial with a 5" fixture radius.

DIXON

WRITE FOR COMPLETE DATA
Ask for full data on range of sizes and design features today.

DIXON AUTOMATIC TOOL, INC.
2302 23RD AVENUE — ROCKFORD, ILL.

AUTOMATIC PARTS HANDLING AND ASSEMBLY EQUIPMENT

For more details circle NED-286 F7 on enclosed inquiry slip

Make Child's Play of
the toughest bonding jobs!

Stick with the One adhesive with

—The Easy Use
that makes difficult bonding work easy for even the newest apprentice—saves everyone time and effort.

—The Bond-Ability
to solve virtually any industrial problem—no matter what materials you have to join.

—The Strength of Ten Men
that gives you permanently satisfactory jobs—resists a pull of up to 1,500 pounds per square inch.

AVAILABLE from industrial jobbers or mill supply houses everywhere or write: Goodyear, Chemical Division, Coatings Dept., Akron 16, Ohio, for full information.

Pliobond
BY
GOODYEAR
"BONDS ANYTHING TO ANYTHING"

Pliobond—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-287 F7 on enclosed inquiry slip

Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine... protects concrete, brick, plaster, tile, wood or composition surfaces.

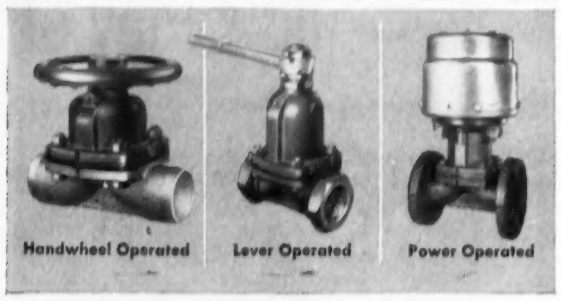
FREE

32-PAGE NoDrip DATA HANDBOOK Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses

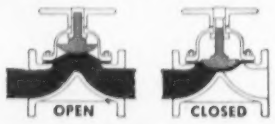
J. W. MORTELL COMPANY 526 Burch St., Kankakee, Ill.

For more details circle NED-288 F7 on enclosed inquiry slip



ALL-PURPOSE VALVE

In industries as varied as mining, food, textile, pulp and paper, beverage, water and sewage, chemicals . . . Grinnell-Saunders Diaphragm Valves continue to win enthusiastic acceptance. This valve is unsurpassed for handling such diversified products as corrosive fluids, gases, viscous materials, foods, compressed air, and solids in suspension. The design of the Grinnell-Saunders Diaphragm Valve is unique. The flexible, long-wearing diaphragm presses tight for positive closure.



Grinnell-Saunders Diaphragm Valves are available in a wide range of body and bonnet styles; also body, lining and diaphragm materials.

Choice of Materials

Bodies — iron; cast steel; stainless steel; Durimet 20; Hastelloy, A, B, C; bronze; Monel; aluminum; PVC (polyvinyl chloride); Saran

Body Linings — hard rubber; soft rubber; neoprene; glass; lead; plastics; Heresite; Lithcote

Diaphragms — soft natural rubber, natural rubber; white synthetic rubber; neoprene; reinforced neoprene; butyl; Hycar; Teflon; Kel-F; PVC (polyvinyl chloride); polyethylene

Bonnets — iron; stainless steel; bronze; other materials on special order

Choice of Bodies

Conventional weir type.

Straight bodies — screwed; flanged; socket weld; butt weld; socket (solder); sanitary threads; hose ends; Victaulic

Angle bodies — screwed; flanged; socket weld

Other types

A line of Straightway Valves (for straight-thru flow) and Full-Bore Valves (for ball brush cleaning) also are available.

Choice of Bonnets

Handwheel (non-indicating stem, indicating stem); chain wheel; lever (for quick operation); sliding stem (for a wide selection of power operated topworks)

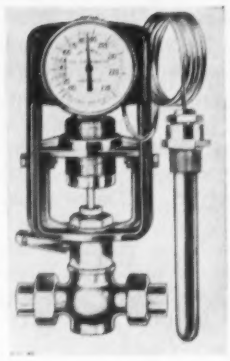
Write Grinnell for further information.

Grinnell-Saunders Diaphragm Valve

Grinnell Company, Inc.
Executive Offices: Providence, R. I.
Sales Offices and Warehouses in Principal Cities

For more details circle NED-289 F7 on enclosed inquiry slip

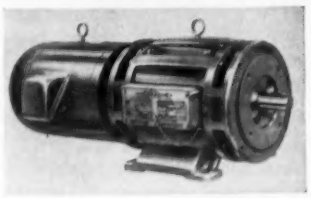
TEMPERATURE REGULATOR indicating unit is self-operating



Front-mounted dial thermometer on the No. 11 self-operating automatic temperature regulator provides continuous temperature readings of the process under control. Unit can be installed in confined areas because of its design which also minimizes danger of indicator damage. Thermal bulb filled with a volatile fluid is placed in tank, vat or line where temperature is to be measured. Any temperature change varies the fluid pressure, causing a bellows to operate the valve to hold the process at a constant heat. Ranges permit control between 60 and 260° F. Made by **Powers Regulator Co.**, Dept. NDC, 3434 Oakton St., Skokie, Ill.

For more details circle NED-290 F7 on enclosed inquiry slip

MACHINE POWER DRIVE packaged unit has cycle control and can be tailored to any job



Starting, stopping, inching, positioning, holding, acceleration control, deceleration control and torque limiting are cyclic operating functions given a machine equipped with a Cycledyne power drive. During the power drive phase of each cycle the drive functions as a power transmission with no efficiency loss due to slippage. Above named machine functions are controlled by various types of manual or automatic remote switching devices.

Application of sequencing circuits provides extent of automation desired. Five basic sizes of Cycledyne units to 50 hp are available with foot, flange or face mounting and open, splashproof and totally enclosed fan-cooled options. Input shaft is continuously driven by an electric motor through a direct coupling or belt drive, and the output shaft drives the machine. Torque is adjusted to the desired value by a remote rheostat control. Made by **Cycledynamics Inc.**, Central Region Sales Office, 1715 Fisher Bldg., Detroit 2, Mich.

For more details circle NED-291 F7 on enclosed inquiry slip

Wheels & Casters for Original Equipment

Gleason Corp.—Semipneumatic wheels with up to 12-in. diameters and light and medium duty casters with 2½ to 6-in. wheels are detailed in 16-page illustrated catalog 400. Load capacities of wheels range from 30 to 350 lb, and of casters, from 75 to 650 lb. Design data are included.

For more details circle NED-292 F7 on enclosed inquiry slip

The Sign of QUALITY MOTOR CONTROL

The Modern Idea in Heavy-duty Push Buttons

These new Allen-Bradley heavy-duty push buttons have been redesigned to provide the attractive styling which has proved so popular with the Allen-Bradley oiltight buttons.

The new Bulletin 800 push buttons have the same maintenance-free contact blocks that are used on the oiltight push buttons. Please send for your copy of the latest A-B Handy Catalog.

Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

For more details circle NED-293 F7 on enclosed inquiry slip

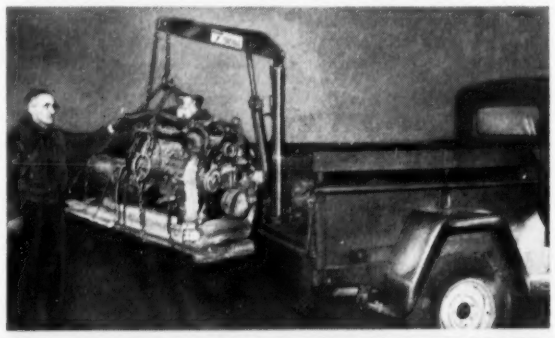
232

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

For more details circle NED-294 F7 on enclosed inquiry slip

Handle Heavy Materials Easily • Safely • Quickly • with RUGER CRANES

These Ruger Hydraulic Truck-mounted cranes will move anything you can hang on a hook — always a one man crane operation. Capacities from ½ to 2 tons.



SUBSTITUTE FOR AN ELEPHANT®

RUGER CRANES

619 West Fourth St.
UHRICHSVILLE, OHIO

SEND FOR 1957 CATALOG
Completely illustrated with specifications for each model. Mobile Floor cranes also available. Capacities ½ to 5 tons. Write now for your copy.

For more details circle NED-295 F7 on enclosed inquiry slip

CEC's Moisture Monitor

Measures one part in one million

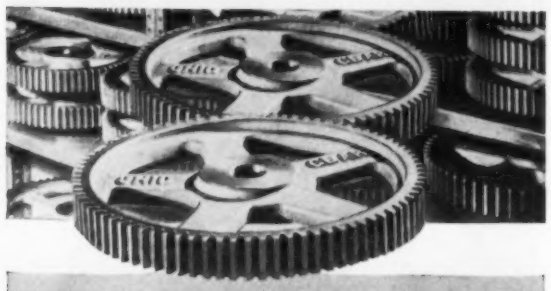
Your ideal solution for any moisture problem is a portable, low-cost CEC Moisture Monitor. The 26-301, illustrated above, gives you accurate moisture measurement down to one part per million. Time response is extremely rapid. With a step function change in sample concentration from 750 ppm to 20 ppm water, the 26-301 will give *approximately 63% response in thirty seconds—95% response in one minute.* A meter calibrated in ppm by volume permits precise readings from 0 to 1000 ppm. Output can be telemetered to a remote recorder. Contact your nearby CEC field office, or write for Bulletin CEC 1834-X13.

Consolidated Electrodynamics

CEC *300 North Sierra Madre Villa, Pasadena, California*

OFFICES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

For more details circle NED-296 F7 on enclosed inquiry slip



STOCK GEARS "OFF THE SHELF" **OHIO** SPECIAL GEARS "TO YOUR SPECIFICATIONS"

• Ohio Stock Gears offer substantial savings in many ways—no wasting time—no delivery delays — replacement is quicker when you standardize with stock gears.

• Ohio Special Gears are the choice of designers and nationally known manufacturers because of their dimensional accuracies and qualities maintained through long experience and modern equipment.

• *There is an Ohio Gear distributor conveniently located near you — call him or write the factory direct.*

THE OHIO GEAR COMPANY
1320 EAST 179 ST. • CLEVELAND 10, OHIO

▲ For more details circle **NED-297 F7** on enclosed inquiry slip ▲

The Powerful **NEW** Hi-Torque

HANDEE®

FOR DIE TOUCH-UP WORK

Grinds, polishes, cuts, saws, engraves, cleans and burnishes. Can be used for working in wood, hardened steel, non-ferrous metals, glass, ceramics, etc. A big time-saving tool for light production grinding and touch-up for all shops, tool and die plants, foundries, etc.

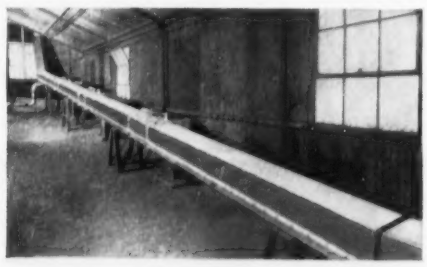
The new Hi-Torque Handee is packed with speed (25,000 r.p.m.) and power. Perfectly balanced, cool running, fits the hand for pencil point precision in delicate work. New chuck lock design for quick change of accessories. Available in 110 or 220 volt, 25 to 60 cycles.

with 6 accessories **$23.95**

With every type of cutting tool in metal case $32.95

Write for Catalog
Chicago Wheel & Mfg. Co.
Dept. NED-6
1101 West Monroe Street
Chicago 7, Illinois

▲ For more details circle **NED-298 F7** on enclosed inquiry slip ▲



F-H AIRSLIDE® . . . the conveyor with no moving parts

The F-H Airslide fluidizing conveyor is a revolutionary type of conveyor, using low-pressure air, and gravity, in which fine dry materials flow like water.

There are many reasons for the universal acceptance of this conveyor. Simplicity of construction and installation. Comparatively light in weight, it can be suspended from overhead or placed on the floor. No moving or working parts, maintenance is nil. Nothing moves but the material and air. Benefits are constant and substantial.

For complete information, write for Bulletin FH-2B.

FULLER COMPANY FH-54
154 Bridge St., Catasauqua, Pa.
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Chicago · San Francisco · Los Angeles · Seattle · Kansas City · Birmingham

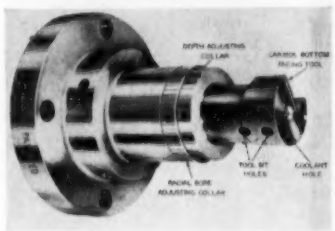
▲ For more details circle **NED-299 F7** on enclosed inquiry slip ▲

VIBRATING CONVEYOR low headroom unit handles scrap

Standing only 4½ in. high, this vibrating conveyor is suited for scrap removal under such metalworking machines as lathes, punch presses and milling machines. Trough vibrates on neoprene springs to make low headroom application possible. Drains can be used for easy coolant collection and removal. One-piece metal trough resists abrasion and prevents scrap spillage. Variable speed drive is included. Made by **Carrier Conveyor Corp.**, 299 N. Jackson St., Louisville 2, Ky.

▲ For more details circle **NED-300 F7** on enclosed inquiry slip ▲

PRECISION BORING HEAD also features depth control



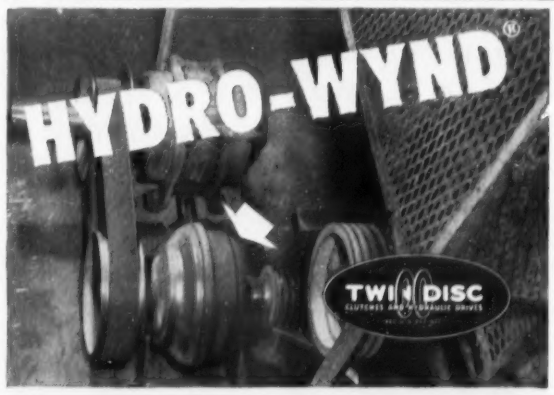
Positive bore size and depth control are assured by this precision boring head. Tool adjusts to a tolerance of 0.0001 - in. without loosening or tightening any screws. Tools are easily adjusted for bore depth. Operator can compensate for tool wear, maintain positive size bore and control depth merely by turning calibrated adjusting collars with spanner wrench. Head assembly is sealed against coolant and foreign particle infiltration. Made by **Briney Mfg. Co.**, Dept. N, Box 2208, Pontiac, Mich.

▲ For more details circle **NED-301 F7** on enclosed inquiry slip ▲

SEALED MINIATURE RELAY has built-in full-wave rectifier

Operation that closely approaches direct current is afforded from all frequencies up to 400 cycles in this class 11 hermetically sealed relay by an integral full-wave rectifier. Contact combinations up to six-pole double-throw are possible in this miniature control. Features include sensitivity, high contact pressures, resistance to vibration and quiet operation. Container has 20-in. plug-in header and mounting studs. Made by **Magnecraft Electric Co.**, 3350K W. Grand Ave., Chicago 51, Ill.

▲ For more details circle **NED-302 F7** on enclosed inquiry slip ▲



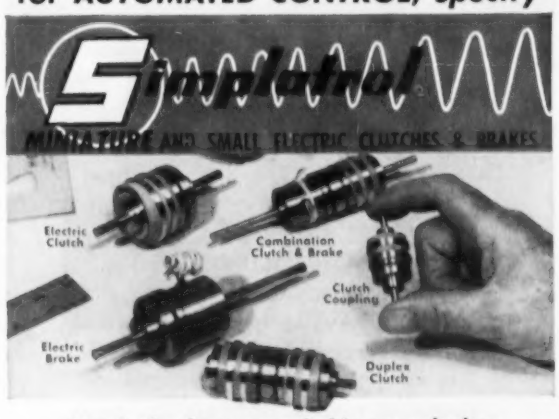
Masterminds winding operations with FLUID DRIVE

Here is the most *economical*, most *dependable* solution to automatic control of your winding operations on textiles, paper, steel, plastic, rubber, wire, foil, etc. By incorporating a fluid coupling with a planetary gear set, the Twin Disc HYDRO-WYND *automatically maintains predetermined tensions* while the roll rpm *decreases* and roll diameter *increases*. Now available in new Model 12.2, as well as 8.4. Write Dept. DS for *Bulletin 163-A*.

TWIN DISC
TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

▲ For more details circle **NED-303 F7** on enclosed inquiry slip ▲

for AUTOMATED CONTROL, specify



Check the features of this new design:

- Rapid diaphragm action, no sliding parts
- Precise clutching and braking – adjustable "soft" to "harsh" action
- Simplicity in design, trouble-free operation
- Silent action, eliminates magnetization of surrounding parts
- 5 standard styles; full range of sizes — ⅞" to 3⅛" diameter

Check your requirements for electric clutch and brake control. You'll find SIMPLATROL Miniature and Small Electric Clutches and Brakes upgrade new machine performance, give faster, more precise sequence operations.

Ask for recommendations on Simplatrol units. New illustrated folder on request.

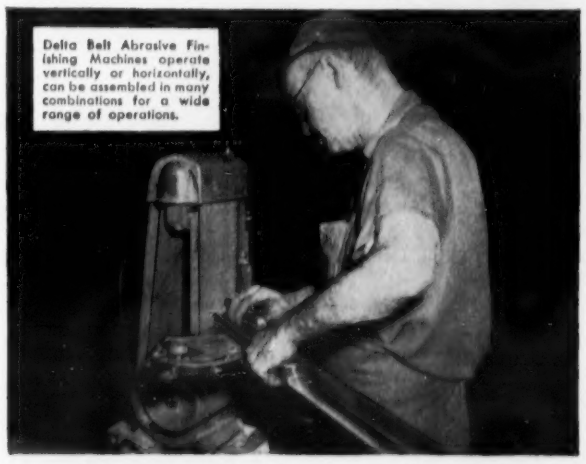
Simplatrol *products corp.*
24 SALISBURY ST., WORCESTER, MASS.
Representatives in Key Industrial Areas

▲ For more details circle **NED-304 F7** on enclosed inquiry slip ▲

ROCKWELL-BUILT

DELTA

belt abrasive finishing machines



...high speed, low cost finishing

for Air Master Corp., Phila., Pa.

SAVE TIME, WORK—Six Delta machines in key work areas maintain high production capacity on finished aluminum door and window parts. According to Francis Yanessa, Vice President, the Delta machines do fast, on-the-spot finishing—eliminate costly, time-consuming stock handling.

REDUCE PRODUCTION DOWN-TIME According to Mr. Yanessa, the abrasive belts are quickly and easily replaced—greatly reduce production time loss. And because the Delta machines meet all safety requirements, operators maintain maximum output with complete protection.

LOW MAINTENANCE COST—The Delta machines stand up under *tough* everyday use—without constant expensive maintenance and repair.

GET ALL THE FACTS—Compare—then make up your *own* mind! Your Delta Dealer is listed under "TOOLS" in the Yellow Pages of your phone book.

another product by
DELTA ROCKWELL

Send for all the facts!

Delta Power Tool Division, Rockwell Manufacturing Co.
626F, N. Lexington Ave., Pittsburgh 8, Pa.
☐ Please send catalog on Delta Belt Abrasive Finishing Machine.
☐ Please send names of my nearest Delta Dealers.
Name _____ Title _____
Company _____
Address _____
City _____ County _____ State _____

▲ For more details circle **NED-305 F7** on enclosed inquiry slip ▲

WHAT?

What is your best weapon against electrical and flammable liquid fires? Instant-action Kidde Dry Chemical Portables! Available in 5, 10 lb. pressurized (re-charged at any commercial air pump), 20, 30 lb. cartridge operated models. Both are fast and easy to use: point horn, pull trigger . . . fire's out. Write for Kidde's P-8 "Full Line" Extinguisher Catalog.

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freez' and the Kidde seal are trademarks of Walter Kidde & Company, Inc. and its associated companies.

Kidde

Walter Kidde & Company, Inc.
624 Main St., Belleville 9, N. J.

For more details circle NED-306 F7 on enclosed inquiry slip

Stacking Problem? call EMI

anything can be

"well stacked"

or shipped on EMI racks

Big or little, strong or fragile, *anything* stacks or ships better on EMI quality racks. They protect stock, cut handling costs and speed inventory.

EMI RACKS are made of strong, tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications with field engineering service on any installation.

Write for our illustrated catalog before you plan additional storage space or the purchase of stacking or shipping equipment.

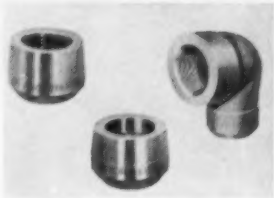
Well Stacked Racks for Industry

EQUIPMENT MFG. INC.

21566 HOOVER ROAD DETROIT 5, MICHIGAN

For more details circle NED-307 F7 on enclosed inquiry slip

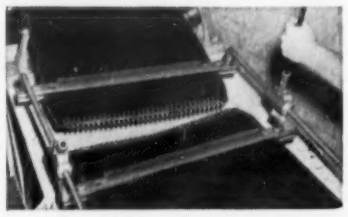
BRANCH OUTLET CONNECTIONS
for pipelines, tanks and vessels



Easy-to-install universal-type W-S Couplet branch outlet connections for pipelines, tanks and pressure vessels are now offered in ¼ through 2 in. sizes with screw-end or socket-welding end connections. They are also available in 90-degree elbows. Couplets are obtainable in forged carbon steel, 3000-lb W.O.G. class screw end type and schedule 40-80 socket-welding type. Made by **H. K. Porter Co.,** W-S Fittings Div., Dept. N, Box 95, Roselle, N. J.

For more details circle NED-308 F7 on enclosed inquiry slip

CONVEYOR BELT CLAMPS
units facilitate installation



Easily operated by one man, Far-Pul clamps facilitate the installation of conveyor belts by employing fast-acting jacks. Each end of the belt is clamped between bars, one set of which is equipped with jacks and tensioning rods as shown. Ends of belt are drawn together by the jacks. When fasteners mesh properly, pin is inserted through loops of lacing or fasteners and tension on jacks is released. Unit pulls to a fraction of an inch and maintains belt alignment. Made by **Flexible Steel Lacing Co.,** 4607 Lexington St., Chicago 44, Ill.

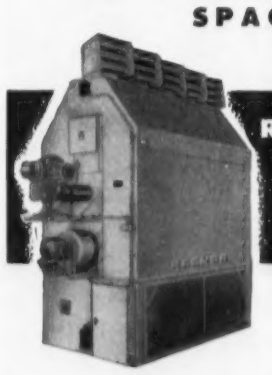
For more details circle NED-309 F7 on enclosed inquiry slip

HEIGHT GAGE
4-in. unit measures up to 11 in.

With scriber's straight edge in down position, the Micro-Height "4" gage has a 4-in. direct-reading capacity. By reversing the precision scriber in its support, capacity is increased to 5 in. Accuracy is to ±0.0003-in. Ground and lapped risers in 1, 2, 3, 4, 5, and 6-in. sizes extend unit's capacity to 11 in. Large readings on barrel are graduated in 0.01-in. while vernier-type readings are made with knurled thimble at the top, which is graduated in thousandths. By replacing scriber with dial indicator, operator can check center distances or surfaces. Gage has rustproof satin-chrome finish. Made by **Greist Mfg. Co.,** 446 Blake St., New Haven 15, Conn.

For more details circle NED-310 F7 on enclosed inquiry slip

HERE'S A NEW ANSWER TO INDUSTRY'S SPACE HEATING PROBLEMS



REZNOR-OLSON
STAINLESS STEEL DIRECT-FIRED HEATERS

- 9 sizes, 400,000 to 2,000,000 BTU
- gas, oil or dual-fuel burners
- free-standing or suspended installation; easily adapted for use in duct systems
- quick and easy to install —just make fuel, electric and vent connections
- completely automatic operation
- practically no maintenance required
- ideal for primary or supplemental heating in all types of industrial building, new or old
- write for free bulletin giving complete details and specifications

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED UNIT HEATERS

Reznor Manufacturing Company, Dept. N, Mercer, Pa.

For more details circle NED-311 F7 on enclosed inquiry slip

ROTH molds SILICONE PARTS and SPONGE

If you need parts that require an extreme temperature range, −100°F to +500°F, a high resistance to compression set and an exceptional resistance to oxidation, then Silicone is the answer. Let Roth's 34 years of experience help you solve your problems.

Send for specifications
ROTH RUBBER COMPANY
1860 South 54th Avenue • Chicago 50, Illinois

For more details circle NED-312 F7 on enclosed inquiry slip

Master PADLOCKS

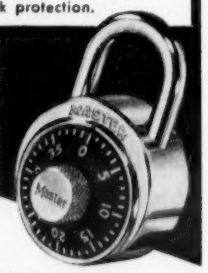
for INDUSTRIAL Protection

FAMOUS MASTER Laminated Padlocks

Multiple steel plates . . . stronger than a solid block! Genuine brass-cylinder, pin-tumbler security. No finer padlock protection.

STAINLESS STEEL Combination Padlocks

Double-wall construction . . . 3 number brass locking mechanism. Available with "Key-Control" — one control key opens all locks.



FREE BROCHURE

Condensed, easy to use information on the Master padlocks most widely used for industrial applications. Write today.

Master Lock Company, Milwaukee 45, Wis.
World's Largest Padlock Manufacturers

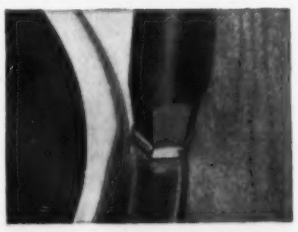
For more details circle NED-313 F7 on enclosed inquiry slip

Save Weight and Space

—assure vibration-proof assemblies with

TYPE R PALNUT® LOCK NUTS

- **Up to 65% less weight than ordinary nuts**
- **Require less thread space than jam nuts**



Internal Wrenching for tight spots

Note how PALNUT Internal Wrench, used inside of Type R PALNUT, permits fast assembly of radio speaker having small flange area and adjacent boss.

•

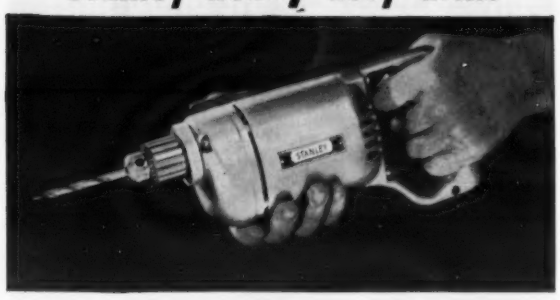
Write for Free Samples stating size and application

Type R PALNUT Lock Nuts are ideal for compact designing of threaded fastenings in radio, TV and electronics equipment. No external wrenching space is needed—no lockwashers—shorter screws can be used. PALNUT spring locking action resists vibration—keeps parts tight. PALNUTS cost less than ordinary nuts and assemble easily and fast with power tools.

THE PALNUT CO
45 Glen Road, Mountainside, N. J.
Subsidiary of United-Carr Fastener Corp.

For more details circle NED-314 F7 on enclosed inquiry slip

Stanley heavy duty drills



"...and power to spare!"

"What I like about these new Stanley all ball bearing drills is the way they stand up on the tough jobs, day after day, week after week. They do all the drilling we take them to with complete satisfaction and power to spare."

This is what one typical user has said about Stanley 300 series *heavy duty* portable drills. For rugged maintenance of all kinds and for production that demands continuing peak performance, it's what every user knows. These drills are available in 4 models of 1/4", 5/16" and 3/8" capacities.

Your industrial distributor will demonstrate the performance of these new drills. Write for Catalog E136.

Stanley Electric Tools
Division of The Stanley Works, New Britain, Conn.

STANLEY

For more details circle NED-315 F7 on enclosed inquiry slip

SIMPLE, ACCURATE "On-the-Spot" Pressure Control

MASONEILAN 2700 Series

MODEL 2707 — Valve or Wall Mounting

MODEL 2700 — Panel or Wall Mounting

Complete line of simplified pneumatic proportional controllers for handling majority of pressure control applications. Inexpensive; easy to install; wide flexibility. Easy-to-adjust proportional band and set point. Narrow to intermediate proportional band setting. Pneumatic feedback, usually found in more costly controllers, delivers precise response. Similar 3700 Series also available for temperature control. SEND FOR BULLETIN . . . Find out how these low-cost controllers can handle a new broad range of applications.

MN7-4

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan Street, Norwood, Massachusetts

Complete Line of Control Valves, Control Instruments, Regulators, Liquid-Level Controllers and Special Process Control Equipment.

For more details circle NED-316 F7 on enclosed inquiry slip

It's NEW! 3000 SERIES BURR-RITE Sr.

NEW MACHINE NEW MEDIA Reduce Your Deburring Costs

● Is DEBURRING required on your products? Do you realize the savings that can be made by the Barrel Finishing process? Write us today and get full details about this new, improved machine. SEE its value on your parts . . . Send samples for free processing today.

Globe Div. CASALBI CO.
542 Wayne St., Jackson, Michigan
Barrel Finishing Equipment • Media • Compounds

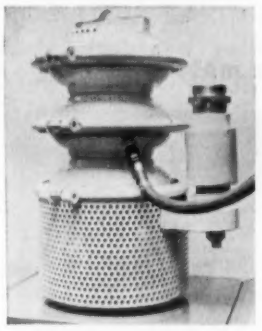
For more details circle NED-317 F7 on enclosed inquiry slip

WAREHOUSE LAYOUT MODELS offered in various scales

Maximum efficiency and use of space in warehouse operations can be brought about at a cost of about 1 cent per square foot by use of scale models for warehouse layout purposes. Wood and plastic scale models are affixed to a planning board with a temporary adhesive. Available scales are 1/8, 3/16, 1/4 and 1/2-in. to the foot. Made by **Industrial Models, Inc.,** Dept. E, 2900 Sconset Rd., Wilmington 3, Del.

For more details circle NED-318 F7 on enclosed inquiry slip

AIR OPERATED PUMP pumps with head of 100 ft or more



Suited for sump, deep shaft and trench work, this diaphragm type air-operated pump for high head pumping is fire and explosion-proof. It is quiet in operation and ejects fluids with 60-per cent solids and highly abrasive liquids. Fluids and materials are bypassed from suction line directly into the discharge outlet and do not contact any working parts. Pump is 22 in. high, 12 in. in diameter and weighs 65 lb. It will pump with a head of 100 ft or more. Made by **Layton Co.,** Dept. NED, 4749 S. Whitnall Ave., Cudahy, Wis.

For more details circle NED-319 F7 on enclosed inquiry slip

WINCHES have capacities of 1000 and 1400 lb

Two all-purpose winches have two-way ratchet action with "off" position which permits rotating the drum in either direction with safe, positive control. No. 247 has a capacity of 1400 lb with a work-saving 9-to-1 gear ratio. The 1¾-in. diameter drum takes up to ¾-in. rope and has an adjustable rope keeper to assure an even lay of rope or cable. No. 235, with 1000-lb capacity, uses a side-mounted rope keeper. Handle has a nickel-chrome roller sleeve. Made by **Fulton Co.,** 1912 S. 82nd St., Milwaukee 19, Wis.

For more details circle NED-320 F7 on enclosed inquiry slip

Vinyl-Mylar-Epoxy Markers simplify wire identification

Self-sticking Wire Markers now come in seven stock materials tailored to job requirements. The Brady "Perma-Code" system cuts cost of assembly and installation of electrical and electronic parts. They meet NEMA and NMTBA specs and provide permanent around-the-wire identification for 1/5¢ per lead.

ALL-VINYL — Recommended for plastic coated wires. Hug tight to wires, have superior resistance to soiling.
POLYESTER FILM — Superthin Mylar markers do not bulk. High dielectric strength for electronic assemblies.
EPOXY RESIN — Identify oil-immersed wire leads in high voltage and specialty transformers. Made to order.
ALUMINUM FOIL — Used in elevated temperatures and when oily and solvent conditions demand permanent marking.
VINYL-CLOTH — All-Purpose markers withstand temperatures up to 300°F. Available in 2002 stock symbols and numbers.
COLOR CODE — Conform to NEMA specifications. You get two-way identification with *both* color and number.
MINIATURE MARKERS — Specially designed for small diameter wires, electronic and subminiature assemblies.

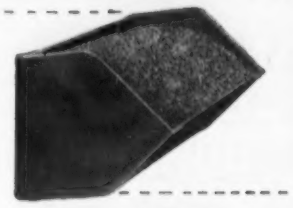
Listed in SWEET'S Product Design File.

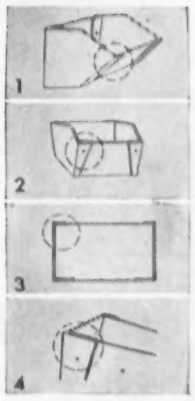
Stocking Distributors in 200 principal cities. Write for free working samples and new Bulletin No. 130-D. 60

Manufacturer: W. H. Brady Co. 797 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-321 F7 on enclosed inquiry slip

LINK-BELT "HS" elevator buckets





4 ways stronger

(1) Reinforced corners. (2) Rigid crimped backs. (3) Body and end plates of same gauge steel. (4) Double-thick metal for end bolt holes. You get all these long-life features with Link-Belt "High-Speed" buckets. Ideal for handling fine, free-flowing, granular materials. For facts, write for your copy of Folder 2548-A.

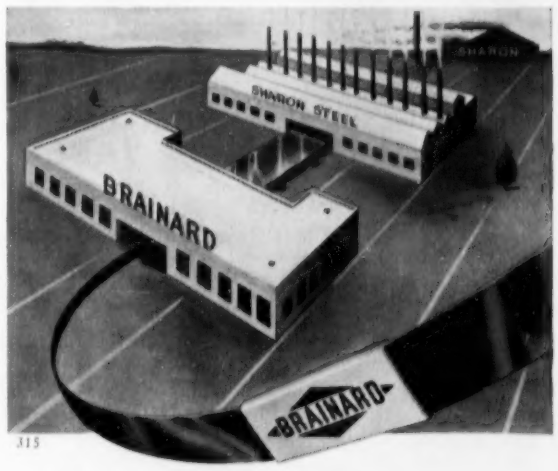
LINK-BELT

"HS" ELEVATOR BUCKETS

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville (Sydney), N.S.W.; South Africa, Springs. Representatives Throughout the World. 14,488

For more details circle NED-322 F7 on enclosed inquiry slip

Another Plus . . . from Brainard



.315

"INTEGRATION"

An Extra Assurance of Quality in Brainard Steel Strapping . . . .

The word integration has a special meaning in the industrial vocabulary. An integrated company has come to mean one that gives something extra in quality, delivery, and performance.

As a division of Sharon Steel, Brainard can be sure that the steel used for strapping has been developed to meet their own exacting standards. From mine to finished product, Brainard Steel Strapping has that extra quality that can come only from an integrated industry.

The Brainard strapping line includes over 378 items to provide you the finest modern strapping facilities. Brainard trained sales engineers are on call in every major city to help you with your strapping problems.

Brainard Steel Strapping

SHARONSTEEL

Brainard Steel Division, Sharon Steel Corporation
Griswold Street, Warren, Ohio

For more details circle NED-323 F7 on enclosed inquiry slip

S-1085 Bar with S-1084 Fastener for Signal Corps chests.

for transit case and chest hardware to exact government specifications

see

J. H. SESSIONS & SON

Write for catalog of hardware for Air, Signal and Engineer Corps Transit Cases and Chests, and other applications where government specifications must be met.

J. H. SESSIONS & SON
289 RIVERSIDE AVE., BRISTOL, CONN.

For more details circle NED-324 F7 on enclosed inquiry slip

The New Improved Fluid Feed ROTARY TABLE

Deftly holds and delivers small parts to drill, tap, swage, stake, etc. 8, 12 or 24 stations accurate to .003". Positive, uniform air-hydraulic indexing—not a mere hydraulic check. Indexes slow or fast, up to 2800 per hour. Compact and sturdy, easy to tool and hook up. Standard dial plate 12" x ½" ground steel. For a new job, simply tool up a new dial. Readily combines with "MEADMATIC" Timer, Air Hammer, Air Press, Drill Presses, etc.—to make almost completely automatic machines—operator merely loads.

Send for new Air Power catalog today!

(See Volume IV Thomas' Register for nearest distributor's address, phone number.)

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. NA-67, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

For more details circle NED-325 F7 on enclosed inquiry slip

LOOK WHAT YOU CAN DO WITH

HANDY & HARMAN SILVER BRAZING ALLOYS

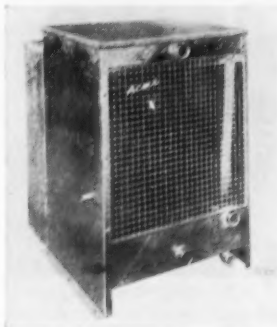
You can join a host of metals, similar or dissimilar, permanently ...quickly...economically with EASY-FLO or SIL-FOS. These Handy & Harman brazing alloys are ideal for all types of production heating methods: torch, burner, induction, oven, salt bath and others. Successful silver brazing case histories are too numerous to count...the next could be yours.

Bulletin 20 tells the story of EASY-FLO, SIL-FOS and HANDY FLUX, along with valuable information on joint design and brazing techniques. We would like to send you a copy.

HANDY & HARMAN
82 Fulton Street
New York 38, N. Y.

For more details circle NED-326 F7 on enclosed inquiry slip

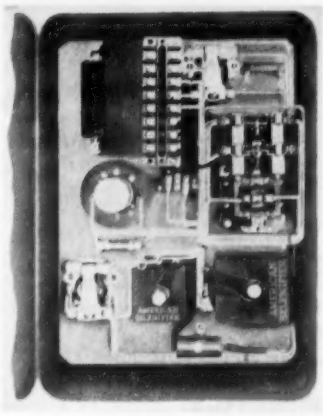
COOLING TOWERS
in 3 to 20-ton capacities



Plastic Pak featured in line of 3 to 20-ton cooling towers affords freedom from rot, rust and other deterioration. This "capacity capsule" consists of high-impact polystyrene sheets held in galvanized metal frame container that makes removal for inspection or cleaning an easy operation. Water dispersal over the Plastic Pak is accomplished by drip-pan and spreader arrangement that eliminates need for nozzles. Air flow is induced through tower by fan enclosed in detachable grilled protective housing. Made by **Acme Industries, Inc.**, 450 Mechanic St., Jackson, Mich.

For more details circle NED-327 F7 on enclosed inquiry slip

ELECTRIC BRAKE
for ¼ to 250-hp ac motors



All-electric Selenibrake for use on any alternating current motor from ¼ to 250 hp can repeat its stopping cycle many thousands of times without variation in braking torque. Thus, brake is practical for machine tools, presses, printing and woodworking equipment, textile and rubber mill equipment and similar applications requiring fast, frequent stops. Supplied for any voltage up to 600 v, either 60, 50 or 25 cycles, brake is applied to the motor starter by six connections. Braking torque is adjustable to meet requirements. Brake is housed in metal enclosure and is not affected by oil mist or dust. An electrical lock which is released when operator presses starter button is optional. Made by **American Rectifier Corp.**, Selenibrake Div., 85 Lafayette St., New York 13, N. Y.

For more details circle NED-328 F7 on enclosed inquiry slip

Precision Comparator Gages

Pratt & Whitney Co.—Electrolimit comparators are available in internal and external types for accurate measurement to tolerances from 0.01 to 0.0005-in. with up to 7000-X magnifications. Also shown in 20-page catalog No. 601 are Electrolimit height gages, internal clearance comparators, snap gages and special comparators.

For more details circle NED-329 F7 on enclosed inquiry slip

FINISH METAL PARTS at low cost

Amazing results are being obtained in finishing metal parts by using Exolon Tumbling Abrasive — an electrically fused aluminum oxide.

This Exolon Abrasive is pretumbled to remove sharp projections and supplied in uniform sizes from 2" diameter down. It is chemically inert and breaks down very slowly. Result — a more uniform metal finishing job achieved quickly and duplicated exactly time after time.

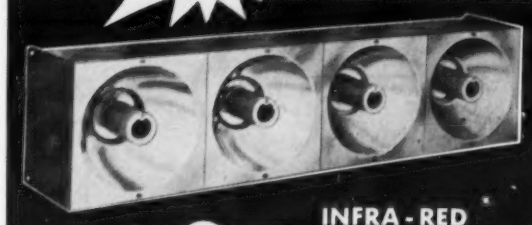
Write today.

Gentlemen: Please send
☐ Your folder, EXOLON BARREL FINISHING ABRASIVE.
☐ Your Recommendations for the following finishing problem .....
Name .....
Address .....
Company .....
City .....

The EXOLON Company
986 East Niagara Street Tonawanda, New York

For more details circle NED-330 F7 on enclosed inquiry slip

NO BULBS OR SOCKETS TO BURN OUT! NO COLD OR HOT SPOTS



with driQuik INFRA-RED INTERLOCKING OVEN SECTIONS

ovens any size or shape

There's nothing anywhere like the driQuik infra-red generators which are lava coated and deliver far more infra-red rays with less power consumption than any other method known. They not only cut down replacement cost; they're immune to shocks, vibration, moisture.

WRITE TODAY FOR LITERATURE

showing how you can speed up production and reduce costs by building or having us build driQuik ovens for your needs.

driQuik DIVISION
DRY CLIME LAMP CORP.
GREENSBURG, INDIANA

For more details circle NED-331 F7 on enclosed inquiry slip

Now Baker gives you BALANCED DESIGN in an all new 2000 lb. GAS FORK TRUCK

This newest addition to Baker's outstanding line of gas-powered fork trucks now completes the range of models from 2000 to 7000 lbs. Like its companions it features Baker *Balanced Design*, with all elements coordinated to work together for top efficiency, maximum dependability and longest life.

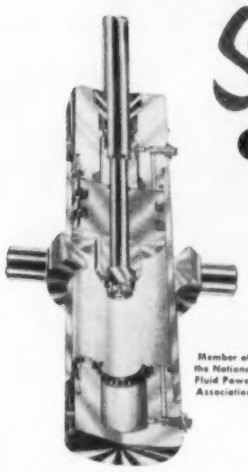
For greatest operator convenience and safety it features absence of cowl and offset driver position for better visibility . . . recessed seat for lower driver silhouette . . . unobstructed access for mounting from either side . . . effortless automotive steer . . . self-adjusting, self-energizing and self-equalizing hydraulic brakes.

Actual turning radius of this sturdy compact truck is only 61½ inches . . . it operates in 57-inch intersecting aisles. Total lift 130 inches . . . lifting speed 45 FPM, lowering 65 FPM . . . travel speed 8 MPH forward, 7 MPH reverse — all with full load. Mast tilts 10° forward or back.

Baker industrial trucks
THE BAKER-RAULANG COMPANY
1245 WEST 80th STREET • CLEVELAND 2, OHIO
A Subsidiary of Otis Elevator Company
Otis

For more details circle NED-332 F7 on enclosed inquiry slip

all the **EXTRAS** are standard with



T-J Spacemaker CYLINDERS

- NEW *exclusive* ingenious cushion designs . . . Super Cushion Flexible Seals for Air . . . New Self-Aligning Master Cushion for Oil.
- STRONGER than outmoded tie rod design, proven through actual tests. No tie rods to stretch.
- SOLID STEEL HEADS throughout the full line.
- COMPACT DESIGN eliminates tie rods, increasing the strength and reducing mounting space required, providing extra room for adjacent equipment.
- HARD CHROME PLATED body bores and piston rods . . . assure you of long trouble-free service. (Standard at no extra cost.)
- METALLIC ROD SCRAPER, not just a wiper, actually removes foreign matter from the rod.
- PILOTED PACKING GLAND with extra long bearing. Additional strength and support to the piston rod.
- OIL pressure to 750 p.s.i. AIR to 200 p.s.i.

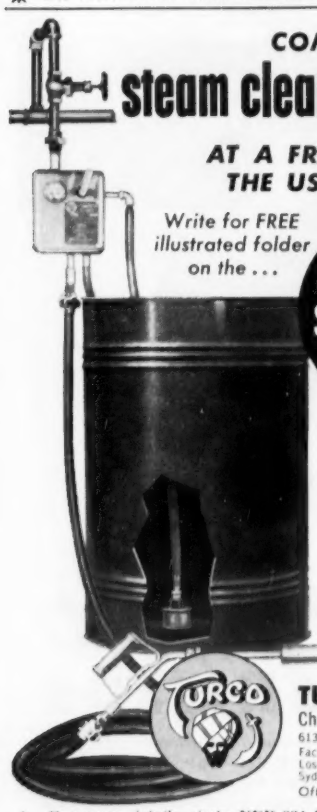
Member of the National Fluid Power Association

DELIVERY OFF THE SHELF!

NEW LITERATURE—Send today for new Catalog SM56 with complete engineering details on Spacemaker line. Write The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHORS

▲ For more details circle NED-333 F7 on enclosed inquiry slip ▲



COMPLETE
steam cleaning facilities
AT A FRACTION OF THE USUAL COST

Write for FREE illustrated folder on the . . .

TURCO STEAMERETTE (operates on plant steam)

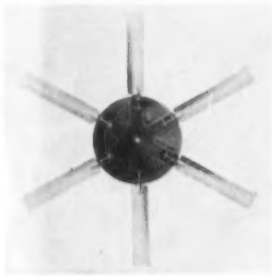
for cleaning, paint stripping, phosphating, sanitizing . . .

- Only 1 valve to operate
- Operates on 40-140 psi steam
- Easily installed
- Economically maintained

TURCO PRODUCTS, INC.
Chemical Processing Compounds
6135 South Central Ave., Los Angeles 1, Calif.
Factories: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Naha (Okinawa)
Offices in all Principal Cities

▲ For more details circle NED-334 F7 on enclosed inquiry slip ▲

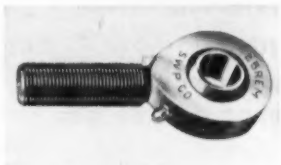
AIR-MOVING PROPELLERS
for cooling towers, heat exchangers



A modification of the Macheta airfoil propeller, these improved large-diameter AL-metal propellers for cooling towers and heat exchangers have cast aluminum blades. They are individually balanced to permit interchangeability in any assembly and to speed installation. Cast steel hubs with bolted blade sockets resist vibration and stress. Propellers are available with four or six blades, in diameters from 14 to 18 ft. They offer single or multiple pitch operation. Angle setting for each operating requirement assures accurate pitch for any predetermined performance. Made by **Aerovent Fan Co.**, 700 E. Ash St., Piqua 52, O.

▲ For more details circle NED-336 F7 on enclosed inquiry slip ▲

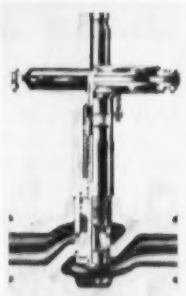
ROD END BEARINGS
two-piece, self-aligning type



Radial ultimate loads from 7000 to 33,300 lb and higher are supported by line of two-piece (ball and body) self-aligning rod end bearings. The plain, spherical units are offered with male and female rod ends and will withstand high radial and axial thrust loads. Sizes from 1/4 to 3/4-in. bores and larger are suited for normal and high temperature operations to 1000° F. Made by **Southwest Products Co.**, Dept. NED-55, 1705 S. Mountain Ave., Monrovia, Calif.

▲ For more details circle NED-337 F7 on enclosed inquiry slip ▲

DIAPHRAGM CONTROL VALVE
tightly seals against 10,000 psi



Pressure-balanced disk of the type DCB-1 diaphragm control valve is unaffected by line pressure, either on opening or closing movement. It provides bubble-tight closure against line pressures up to 10,000 psi. Valve can be operated with supply air as low as 3 psi, with a single seat and one 8-in. diameter diaphragm. Inner valve and seat are accessible without breaking line connections. The 2 to 4-in. units have screwed or flanged connections and controller top mount (shown) or 1/4-in. NPT top connection. Time-cycle or pressure-actuated controllers or suitable types of electric pilots can be used. Made by **Garrett Oil Tools, Inc.**, Dept. NED, Box 2427, Longview, Tex.

▲ For more details circle NED-338 F7 on enclosed inquiry slip ▲

. . . in DESIGN
CONSTRUCTION
VERSATILITY

HANSEN automatic
ONE-HAND TACKERS

. . . designed to include important features that spell greater speed, accuracy and dependability in continuous tacking.
. . . lightweight, easy to handle—yet sturdy in construction . . . made to last for years of service.
. . . completely versatile—36 different models with 80 staple sizes. Adaptable to every tacking and stapling requirement.

Be sure to specify HANSEN, the TOP QUALITY Tacker. Write for Booklet

T4574

A. L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE. · CHICAGO 40, ILLINOIS

▲ For more details circle NED-339 F7 on enclosed inquiry slip ▲

How to get more storage space with BLAW-KNOX Electroforged® Steel Grating

You can get additional badly needed storage space easily and economically in your present building simply by installing platforms of Blaw-Knox Grating. It fits easily, neatly around pipes, beams and machinery without any alterations to your building.

Maintenance costs are slashed in the bargain. There's nothing to wear, nothing to patch. Blaw-Knox grating is self-cleaning too. No sharp corners to clog up with dirt, and you'll find painting is easy since all surfaces are easily accessible.

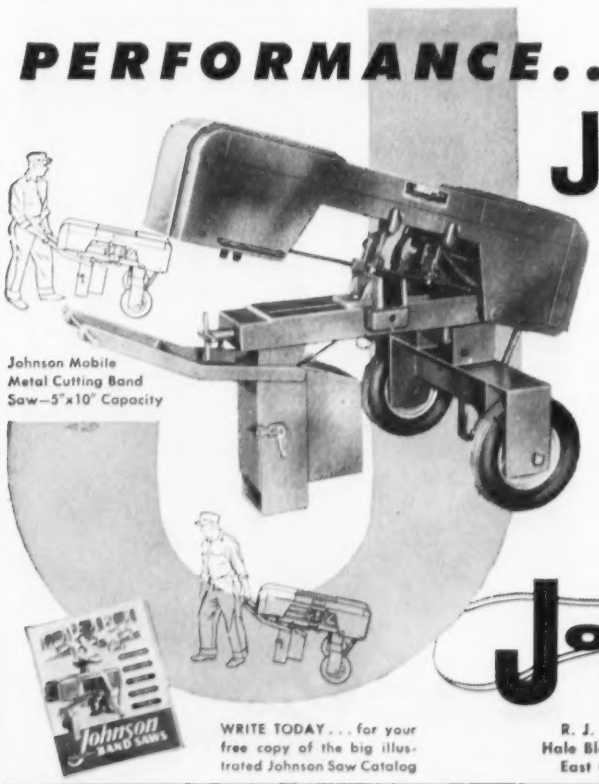
You get maximum open area for plenty of light and ventilation. What's more, its rigid one-piece construction means maximum structural strength and load bearing capacity.

Blaw-Knox Electroforged Grating for walkways, stair treads and floors is fabricated to your specifications to meet your own operating requirements. Complete data on all types is contained in Bulletin 2527. Write for your copy today.

BLAW-KNOX COMPANY
Equipment Division
Dept. F, Pittsburgh 38, Pa.

▲ For more details circle NED-340 F7 on enclosed inquiry slip ▲

PERFORMANCE . . . wherever you need it!



Johnson Mobile Metal Cutting Band Saw—5"x10" Capacity

Johnson *MOBILE*
METAL CUTTING BAND SAW

The right saw in the right place pays for itself—fast. That's why so many contractors and field crews are using the versatile Johnson Model M—Mobile Saw. The Model M eliminates all hand cutting of structural steel, pipes, conduits, angle iron, reinforcing rods—cuts anything on the job . . . including time and labor costs. It's mounted on big, sturdy rubber-tired wheels for complete portability—it's easy to handle and easier yet to operate. It's a natural for any contractor with metal to cut and it's built to last a lifetime—indoors or out. Take a good look at this husky Model M and order yours right now. You'll save important money right from the time your saw gets to the job!

SPECIFICATIONS

Capacity—5" rounds, 10" flats
Height (Closed)—30"
Blade Length—7' 5" x 1/2" x 23 ga.
Blade Speeds—45, 90 and 150 ft. per min.
Floor and Ground Space—46" x 28"
Drive Wheels—10" diameter
Motor—1/3 H.P.—any voltage with 25' ext. cord
Traction Wheels — Solid, rubber tread, 12" dia.
Weight—300 lbs.

WRITE TODAY . . . for your free copy of the big illustrated Johnson Saw Catalog

Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts., Albion, Michigan

Eastern
R. J. R. KELLY CO.
Hale Bldg., 51 Main St.
East Orange, N. J.

Mid-Western
W. Q. LUNDMARK
75 N. Broadway
Des Plaines, Illinois

Western
HASTINGS DISTRIBUTORS
1605 Solano Avenue
Berkeley, California

▲ For more details circle NED-335 F7 on enclosed inquiry slip ▲

Cut Fast and Cool!

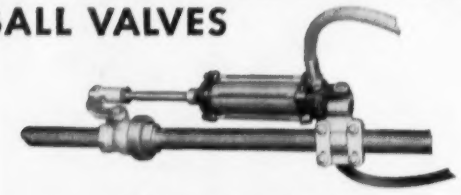
S. S. WHITE CARBIDE BURRS cut *fast* to reduce your operating time. They cut *cool*. Burr heads are made of tungsten carbide . . . necks and heads of steel. They will give you long, economical use.

S. S. WHITE CARBIDE BURRS are available in a wide range of sizes and shapes. Write for Catalog T-55.

THE S.S.White INDUSTRIAL DIVISION
10 East 40th St. New York 16, New York (DB)

For more details circle NED-341 F7 on enclosed inquiry slip

ROCKWOOD AIR-OPERATED BALL VALVES



For remote control use

Here's the way to operate valves in hazardous locations or valves installed in difficult and hard-to-get-at places. It's the Rockwood new air-operated Ball Valve. This new unit can be mounted in FOUR different positions around the Rockwood Ball Valve. It operates valve smoothly and efficiently. One valve or several valves can be controlled from one central control board. Comes in a complete package unit. Ball valve, cylinder, special handle and mounting bracket can also be bought separately. Can be operated with various types of controls.

This complete package unit is available in sizes from ½" thru 2" in bronze and 3" and 4" in cast steel. Additional features are also available on request. Write today for full information — free booklet. Rockwood Sprinkler Company, 2281 Harlow St., Worcester 5, Massachusetts

ROCKWOOD BALL VALVES
For full round flow efficiency

For more details circle NED-342 F7 on enclosed inquiry slip

Power failure and sudden darkness bring

PAINFUL INJURY

. . . but Exide Lightguards* go on automatically when lights go out—prevent sudden darkness. They protect you against the risk of injuries. Plug into your regular outlets. Built-in automatic charger. Batteries last for years. Choose from four models. Send coupon today.

Exide®

*Lightguard is a trademark of The Electric Storage Battery Co., Reg. U.S. Pat. Off.

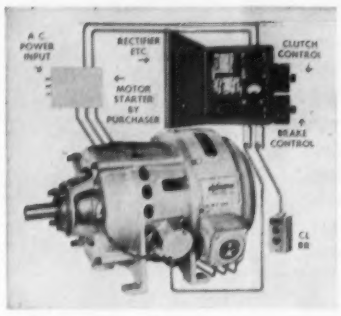
BE SAFE—MAIL COUPON NOW

Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.
Send details on ☐ portable Exide Lightguards ☐ larger emergency systems.

Name.....
Street.....
City..... Zone..... State.....

For more details circle NED-343 F7 on enclosed inquiry slip

MOTOR-CLUTCH-BRAKE DRIVE
designed around axial air-gap motor

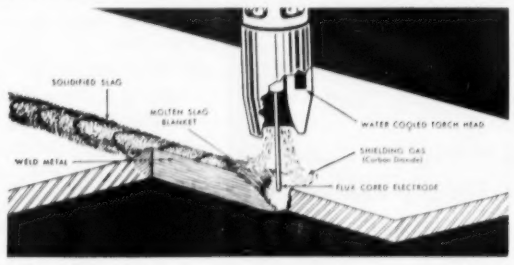


Fast or slow starts with acceleration, deceleration and/or stops in automatic cycles up to 30 per minute are provided by this packaged motor - clutch-brake drive. Suited for shearing and punching machines, conveyors, indexing tables and other continuous or intermittent operating machinery, it has a maximum diameter of 18 in. and overall length not exceeding 30 in. Unit is designed around a Fairbanks-Morse axial air-gap motor, closely coupled to magnetic clutch and brake components. It is offered in 1½ to 15-hp constant-torque sizes with standard motor speeds from 600 to 1800 rpm. Direct current rectification and a special control cabinet for automatic cycling are available. Made by **Ericsson Merritt, Inc.**, 506 Pine St., Lockport, N. Y.

For more details circle NED-344 F7 on enclosed inquiry slip

ARC WELDING METHOD
introduces flux-core electrode with shielding carbon dioxide gas

Extremely fast weld metal deposition is claimed for the Dual Shield arc welding method which introduces a flux-core electrode in combination with shielding carbon dioxide gas. Unusually deep penetration with any type mild steel is achieved. Welder sees exactly where he is welding because the granular flux additives that protect the work from atmospheric impurities are "built in" as the core of the special electrode. The flux includes an ionizer to stabilize the electric arc, a deoxidizer that permits welding mill-run steel without cleaning it first and a slag-forming agent.



Process employs carbon dioxide gas to exclude contaminating air from arc and molten metal and to introduce a measured portion of oxygen directly into the weld pool. Arc is about 1000° hotter than average 9000° F welding arc. Single pass of gun welds the full thickness of a ½-in. steel plate. Developed by **National Cylinder Gas Co.**, 846 N. Michigan Ave., Chicago 11, Ill.

For more details circle NED-345 F7 on enclosed inquiry slip

BIN STUCK LATELY?

There are two ways to handle a stuck bin. You can bang it loose with a sledge hammer, and damage your equipment; or you can install Cleveland Vibrators and put an end to your problem. The first way is slow and costly. But the second way is efficient, fast, and inexpensive.

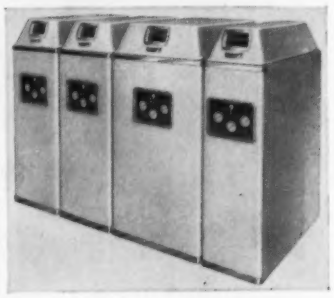
How about you! Are your schedules suffering from stuck bins? The low cost of Cleveland Vibrators will surprise you, and the results will definitely please you. Why not get the whole story with a two-cent post card.

Air or Electric
Portable or Permanent
Silent or Standard

THE CLEVELAND VIBRATOR CO.
2744 Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-346 F7 on enclosed inquiry slip

AUTOMATIC BLENDER
blends liquids with precision accuracy



Xacto precision blending systems accurately mix, compound or blend lube oils, cutting oils, beverages, coolants, chemicals and many other liquids in a closed system process that eliminates costly batching. A simple setting of the percentage selectors provides a variation of blend from ½% to 100%. Xacto meter with its positive displacement principle of measurement assures perfect proportioning of all liquids. Two or more units may be required depending on the number of liquids to be blended. A full color, 12-page folder, outlining many advantages of blending system over outmoded batch method is available by writing **BOWSER, INC., 1381 E. CREIGHTON AVE., FORT WAYNE, INDIANA.** *Advt.*

For more details circle NED-347 F7 on enclosed inquiry slip

Dockson FACE SHIELDS

Famous for comfort, maximum protection and long service life. Featherweight but sturdy construction to suit your specific job requirements. Ample ventilation. Adjustable molded fibre headgear. Replaceable sweat pads. A style for every job.

Write for complete Head & Eye Protection catalog and name of your nearest Dockson Dealer.

3839 Wabash Ave.
Detroit 8, Michigan

Dockson CORPORATION

For more details circle NED-348 F7 on enclosed inquiry slip

WE USE LABELON TO MARK STORAGE AND STOCK BINS, TAG TOOLS, INDICATE REPAIRS AND SERVICE WORK

WON'T SMUDGE • RESISTS: DIRT GREASE WATER ACIDS

LABELON PLASTIC Write on it TAPE

STICKS WITHOUT MOISTENING

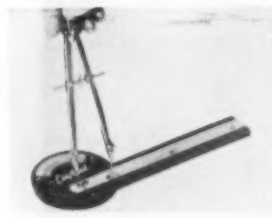
MY WORK'S LOTS EASIER SINCE WE USE LABELON FOR FILES, FOLDERS, DRAWERS AND STORAGE. IT NEVER GETS DIRTY!

For samples and prices, see your nearest dealer or write Dept. NED-6

LABELON TAPE CO., INC.
450 Atlantic Ave., Rochester 9, N. Y.

For more details circle NED-349 F7 on enclosed inquiry slip

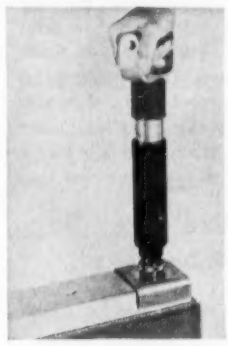
DIVIDER SETTER
permits accuracy to 0.001-in.



Precise setting of dividers used by draftsmen, layout men and tool makers is facilitated by the British-made Leytool micro divider setter. Its plated vernier scale permits settings accurate to 0.001-in. Rule is finished in hard chromium plate. Instrument, with case, sells for $7.50. Available from **Air Transport Equipment, Inc.**, Dept. NE, Albany Ave., Amityville, N. Y.

For more details circle NED-352 F7 on enclosed inquiry slip

POWDER-ACTUATED STUD DRIVER
firmly anchors objects to concrete



Firing of a blank cartridge causes this VP Stud Hammer to drive a nail-like stud through wood or sheet metal to firmly anchor objects to concrete. It is especially useful for attaching conduit boxes, pipe straps, furring strips, ductwork, partitions, signs, carpeting and markers to concrete. Piston-drive principle assures safe operation. It cannot be fired except when held in work position. Nail stud of 1¼, 1¾ or 2¾-in. length is driven by a single size of cartridge, with depth of penetration controlled by power adjusting ring. Tool is supplied with carrying case and shields for various applications. Made by **Velocity Power Tool Co.**, 203 N. Braddock Ave., Pittsburgh 8, Pa.

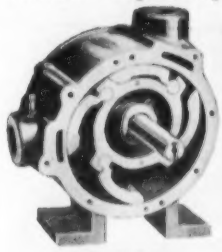
For more details circle NED-353 F7 on enclosed inquiry slip

MAGNETIC CONVEYOR
features extended delivery section

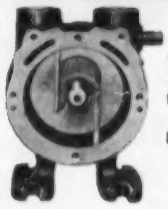
Special delivery extension on this Space-Saver magnetic conveyor solves tote box loading problems in operations where it is necessary to locate the tote box as close as possible to the base of the conveyor. Angle of incline can be adjusted so that receiving end of conveyor fits under discharge chute of all standard presses. When angle of incline is reduced, conveyor reach is extended so that extension section can be centered over a tote box. Full magnetic control of material being conveyed can be maintained. Made by **Homer Mfg. Co.**, Dept. 124, Lima, O.

For more details circle NED-354 F7 on enclosed inquiry slip

LEIMAN AIR PUMPS maintain rated capacity for years and years



VACUUM —up to 29.9" Hg.
PRESSURE —up to 20 psig.



2 WING TYPE
Vacuums -to 29.9" Hg.
Pressures -to 20 psig.
Displacement -to 40.8 c. f. m.

4 WING TYPE
Vacuums to 20" Hg. Pressures to 15 psig. Displacement to 162 c. f. m.

Take up their own wear to assure leakproof seal

Wear and trouble have been designed out of Leiman Air Pumps. The rotating wings (cast iron in the 4-wing type, steel in the 2-wing type) hone the cast iron cylinder walls to glassy smoothness. Negligible wear is automatically taken up, maintaining "new pump" efficiency for periods of 10, 15 and 20 years.

Leiman Air Pumps have fewer moving parts—no tips or blades to renew—need no maintenance except occasional oiling—run quietly and trouble-free. Wide range of sizes and models for countless vacuum, suction and pressure jobs. Distributors and engineering assistance available in all industrial centers.

LEIMAN Rotary Air and VACUUM PUMPS

Write for 12-page Catalog and Application Book showing 60 "how-to-do-it" blueprints.

LEIMAN BROS., Inc.
167 Christie St., Newark 5, N. J.

For more details circle NED-355 F7 on enclosed inquiry slip

ONLY NEW HALLOWELL ERECTOMATIC STEEL SHELVING gives you all these plus features

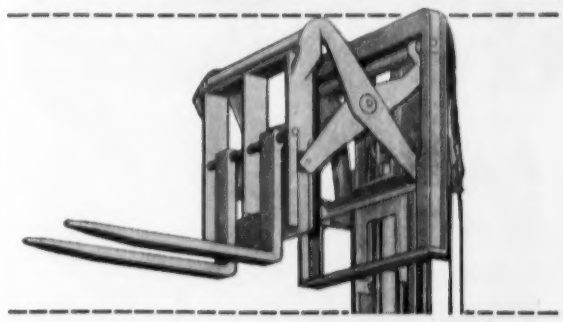
- Fast assembly
- Fast shelf change or addition
- Straight-in, straight-out shelf change
- Independent shelf positioning
- Full use of shelf area
- Common side panels and posts
- Beaded posts and flanged shelves
- Full-depth shelf supports
- 4 classes of shelves

Investigate Hallowell ERECTOMATIC® before buying shelving. You'll find it easy to assemble and rearrange, economical to maintain. It is made of prime steel, is phosphate coated and finished in SPS green baked-on enamel. Other colors are available. Hallowell ERECTOMATIC is sold through leading industrial distributors and shop equipment dealers. Write us for complete information. Hallowell Shop Equipment Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
HALLOWELL SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-350 F7 on enclosed inquiry slip

6 FT. AISLES Now you can have them . . .



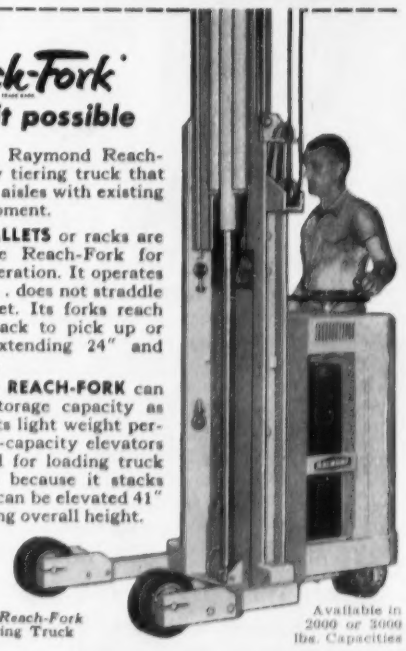
without obsoleting your present racks or pallets

RAYMOND Reach-Fork makes it possible

IT'S TRUE! The Raymond Reach-Fork is the only tiering truck that operates in 6-ft. aisles with existing warehouse equipment.

NO SPECIAL PALLETS or racks are required by the Reach-Fork for close-quarter operation. It operates from the aisle . . . does not straddle the bottom pallet. Its forks reach right into the rack to pick up or deposit load, extending 24" and back in seconds.

THE RAYMOND REACH-FORK can increase your storage capacity as much as 50%. Its light weight permits use on low-capacity elevators and floors. Ideal for loading truck trailers, boxcars because it stacks pallets closely—can be elevated 41" without increasing overall height.



RAYMOND Reach-Fork Electric Tiering Truck

Available in 2000 or 3000 lbs. Capacities

Reach-Fork is equipped with new Raymond power unit that opens like a book for fast, easy servicing. All parts housed behind hinged double doors . . . nothing under unit to inspect but the wheels.

* PATENT NO. 2,664,002

RAYMOND

ELECTRIC INDUSTRIAL TRUCKS HYDRAULIC ELEVATING EQUIPMENT

MAIL COUPON TODAY

The RAYMOND CORPORATION
4135 Madison St., Greene, N.Y.
( ) Please send me latest Reach-Fork Bulletin.
( ) Please have your representative call.
NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

For more details circle NED-356 F7 on enclosed inquiry slip

REGULAR TYPE
Adaptable to all tool posts, height and surface gages, etc.

PERPENDICULAR TYPE
For use on jig borers, in deep holes, etc.

NON-MAGNETIC TYPE
For use on magnetic chucks parallels and other magnetic fixtures.

FEDERAL TESTMASTER

Copied in Foreign Countries and by nearly a dozen companies in the United States!

The Federal Testmaster, though extensively imitated, has never been equalled.

The crown gear movement, original with these Indicators, makes it possible to build-in the exceptionally high accuracy and sensitivity which are so valuable to users. Made in both perpendicular and regular types and graduated in .001" and .0001", or metric.

Contact pressure is extremely light. Contact points are ratchet-held for positive positioning at any angle within 180° arc — movement can be reversed.

The Testmaster is easy to set rigidly in any position and requires no complicated adapters that cause inaccuracies due to friction, lost motion and inertia. Ruggedly built for production inspection and exceptionally adaptable to the many tests required in general machine shop and tool room operations, the Testmaster has a thousand uses. Ask for illustrated bulletin.

FEDERAL PRODUCTS CORPORATION
7176 Eddy Street • Providence 1, R. I.

Ask FEDERAL *First*
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic — for Inspecting, Measuring, Sorting, or Automation Gaging

For more details circle NED-351 F7 on enclosed inquiry slip

Keep your fire loss

Down

with the efficient new **Swartwout Pyrojector**

. . . ejects smoke and heat out through plant roof . . . reduces fire spread...guides firemen to fire source

Pyrojector is an effective answer to fires that billow up and spread under closed roofs. It opens a 28 sq. ft. draft-fed escape vent for smoke and flames. Heat melts a fusible link — powerful springs open dampers instantly . . . A completely new design, with unusual features. Low contour (only 29"), neat appearance. Installs and operates *entirely above roof level.* Weatherproof when closed . . . For complete details of this new "escape" ventilation unit write today for Form 701-C.

The Swartwout Company, 18511 Euclid Ave., Cleveland 12, Ohio

Swartwout ROOF VENTILATORS AND VENTILATING LOUVERS

ALSO AUTRONIC PROCESS CONTROL EQUIPMENT

▲ For more details circle NED-357 F7 on enclosed inquiry slip ▲

SAVE TIME! MAKE MONEY! . . . with Beaver "Speed Cut" Abrasive Cutting Machines

No. 20 Beaver "Speed Cut" Abrasive Cutting Machine.

No. 14 Beaver "Speed-Cut" Abrasive Cutting Machine.

WOW! LOOK AT THESE CUTTING TIMES!

Cutting Time Chart—for No. 14 and No. 20

(Most users report less cutting time than shown).

SIZE	MATERIAL	CUTTING TIME
2 Inch	Steel Pipe	5 Seconds
4 Inch	Cast Iron Soil Pipe	6 Seconds
6 Inch	Steel Pipe	40 Seconds
2 Inch	Cold Rolled Steel	20 Seconds
4 x 4 x 3/8 Inch	Steel Angle	12 Seconds
4 Inch	Steel Channel	10 Seconds
2 Inch	Galvanized Pipe	5 Seconds

ONE MAN WITH A BEAVER SPEED-CUT CAN DO ALL THE CUTTING FOR A LARGE CREW!

- Greater power, more speed; Simply constructed . . . ruggedly dependable!
- Wheels changed in seconds!
- Fast, hold-down vise makes work insertion easy!
- Cuts all types and shapes; hard and soft materials!
- Patented, welded steel wheel guard provides absolute protection to operator!
- Moderately Priced!

Ask for information on the Beaver "Any Angle" Machine for cutting angles, the Wet Cutting Model, and Oscillating Head Model! Don't wait! Investigate Beaver Abrasive Cutting Machines NOW!

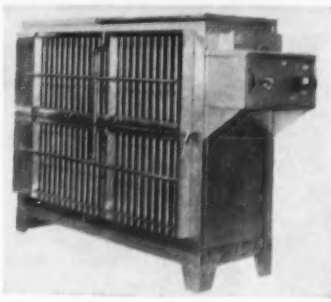
CAN'T TELL IT ALL HERE! Write for latest facts on all Beaver Machines!

BEAVER PIPE TOOLS INC. 373-500 Dana Ave. WARREN, OHIO

HAVE A CUTTING OR THREADING PROBLEM? Let Our Engineering Research Department help you solve it.

▲ For more details circle NED-358 F7 on enclosed inquiry slip ▲

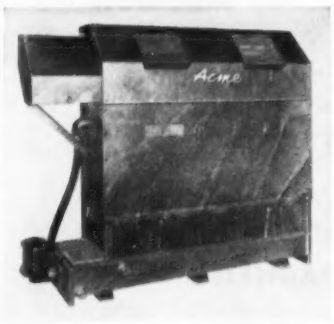
ELECTRONIC AIR CLEANERS
three units handle 3200 to 9600 cfm



Model 132-H, 160-H and 180-H electronic air cleaners added to the compact line have respective capacities of 3200-4000, 6000-7200, and 8000-9600 cfm. Model 132-H is installed with heating equipment having 320,000 to 400,000-Btu input and with 7½-ton cooling equipment. Latter two models are for 600,000 to 960,000-Btu heating equipment and 15 to 20-ton cooling units. These electrostatic units will operate in conjunction with any standard equipment for heating, cooling or moving air. They are designed for horizontal air flow and have double manifold washing systems to flush trapped dust, dirt, lint and pollen from collecting plates. Semiautomatic and completely automatic washing systems are available. Made by **Electro-air Cleaner Co.,** 1284 Reedsdale St., Pittsburgh 33, Pa.

▲ For more details circle NED-359 F7 on enclosed inquiry slip ▲

EVAPORATIVE CONDENSERS
capacities range up to 200 tons



Series of Flow-Mizer evaporative condensers, with capacities up to 200 tons, incorporate zig-zag cross-sectional coil spacing with phenolic spacers. This staggered spacing improves turbulence and heat transfer. Water moving downward and air moving upward travel a long path through the coils. The coils are pitched to form a continuous, zig-zag slope longitudinally. After units are fabricated, a full 0.004-in. thick galvanized coating is put on both sides of the metal. With the external sump, water treatment is simplified, as is servicing of sediment screen and draining of unit. Made by **Acme Industries, Inc.,** 450 Mechanic St., Jackson, Mich.

▲ For more details circle NED-360 F7 on enclosed inquiry slip ▲

Honing Techniques

Barnes Drill Co.—44-page illustrated honing handbook No. 55OY describes how honing generates diametrically round and straight bores, automatically controls size within "tenths" and produces any preselected degree of finish. Tables and charts give speed selection guidance for various materials. Included is discussion of abrasive grades and grits, effects of cutting fluids and calculating work stroke.

▲ For more details circle NED-361 F7 on enclosed inquiry slip ▲

Pump-don't slop INDUSTRIAL LIQUIDS

Get rid of antiquated methods such as pouring, drawing, siphoning, spigoting. Install Tokheims! These high-vacuum pumps are invaluable in maintenance and production work; they help build a barrier against fires and accidents, halt waste, speed production, and improve housekeeping.

Tokheims deliver up to 20 gallons per 100 strokes. No piston to leak, stick, or freeze. Available with hose or spout outlets.

UL

Call your dealer, or Tokheim representative; write for literature—and approved liquid list.

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
1666 Wabash Avenue SINCE 1901 Fort Wayne 1, Indiana
Subsidiaries: Tokheim N.V., Leiden, Holland — Gasfloc, Inc., Shelbyville, Ind. Factory Branch: 475 Ninth Street, San Francisco 3, California In Canada: Tokheim Reader of Canada, 203 Yonge St., Toronto, Ont.

QUALITY TOKHEIM HIGH VACUUM HAND PUMPS

▲ For more details circle NED-362 F7 on enclosed inquiry slip ▲

SEND FOR TODAY

Here's your answer to valve problems on corrosive services

Throughout industry, users are reporting outstanding success with new Crane corrosion-resistant alloy valves in Crane 18-8 SMo and Craneloy 20. This booklet shows how new free-to-rotate, split-wedge disc in gate valves prevents galling, reduces seat wear—and how new free-swivel, plug-type disc in globe and angle valves seats better, resists erosion.

Detailed chart gives 136 suggested applications on corrosive fluids. Get a copy of this circular from your local Crane Representative, or write to address below. Ask for circular AD-2080.

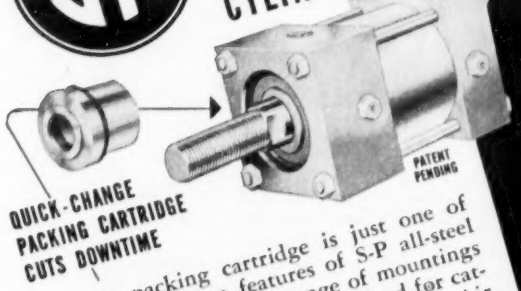
CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill.
Branches and Wholesalers Serving All Areas

▲ For more details circle NED-363 F7 on enclosed inquiry slip ▲

SP AIR and HYDRAULIC CYLINDERS



QUICK-CHANGE PACKING CARTRIDGE CUTS DOWNTIME

Removable packing cartridge is just one of many modern design features of S-P all-steel cylinders. Made in a wide range of mountings and bore sizes. Prompt deliveries. Send for catalog on Hydraulic Cylinders or Standard Air Cylinders or Heavy-Duty Air Cylinders. The S-P Manufacturing Corp., 30201 Aurora Rd., Solon, Ohio.

SEND FOR Catalog

THE S-P MANUFACTURING CORP.
SOLON, OHIO • IN GREATER CLEVELAND
Established 1916
A Bassett Company
ROTATING AIR AND HYDRAULIC CYLINDERS • POWER CHUCKS
NON-ROTATING AIR AND HYDRAULIC CYLINDERS
COLLET AND DRILL PRESS CHUCKS • AIR PISTONS, VALVES, ACCESSORIES

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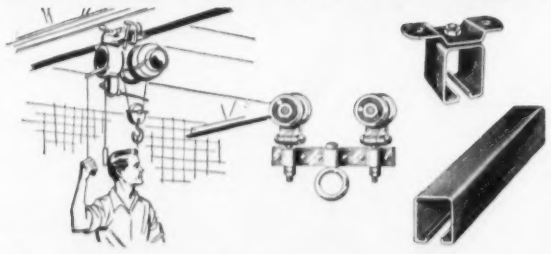
NO "Big Deal" when you install COBURN OVERHEAD CONVEYING EQUIPMENT



A. Our engineers make a study of your particular plant layout.

B. Easy-to-follow plans then are submitted.

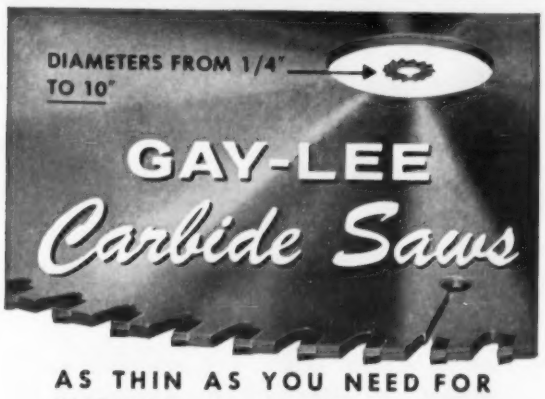
C. These plans, plus Coburn's simplicity of parts and design enable your own plant personnel to set up your overhead conveying system quickly and economically.

Write for Catalog #220 to Coburn Sales and Engineering, 56 Sterling Street, Clinton, Mass.

COBURN PRODUCTS
PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CFI

2578

▲ For more details circle NED-365 F7 on enclosed inquiry slip ▲



AS THIN AS YOU NEED FOR SLITTING, SLOTTING, SAWING

Make tough production problems easy with the Gay-Lee carbide-tipped "Thinsaw." Even when wafer-thin for the most delicate work, these saws provide positive alignment and rigidity that allow cutting free of run-out to full depth. Carbide tips for speed and long life, expertly brazed into a specially designed, patented seat that secures them firmly. Thickness as low as .030", thickness tolerances can be held to .0001", diameters ¼" to 10". Send details of your problem for recommendations and quotations.

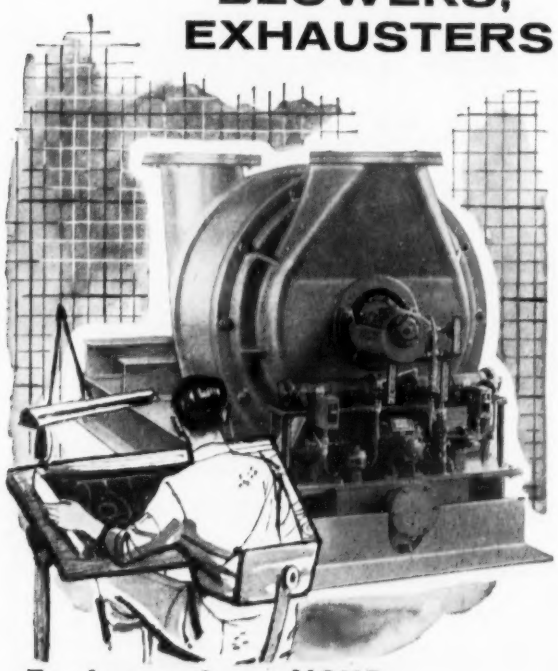
Patented – manufactured under license
Stronger Braze · Circular Seat

GAY-LEE COMPANY
CLAWSON • MICHIGAN

For more details circle NED-366 F7 on enclosed inquiry slip

LAMSON

BLOWERS, EXHAUSTERS



Engineered to *YOUR* Specifications • Application

Whatever your application, whatever your industry, you can depend on Lamson to engineer *low-maintenance, low-cost* Billmyre Centrifugal Blowers and Exhausters. Backed by over 50 years of sound, time-proved design, practical engineering and skilled workmanship, every unit leaving our plant is checked and double checked to insure its long life and your satisfaction.

From 100 to 25,000 C.F.M., from ½ to 500 H.P., in single or multi-stage design, Lamson Blowers and Exhausters deliver the right amount of clean, dry air or gas – without pulsation. Pressure or vacuum always remains nearly constant at all capacities . . . with H.P. proportional to actual volume delivered.

VALUABLE INFORMATION! CLIP TO YOUR LETTERHEAD

LAMSON CORPORATION
174 Lamson St., Syracuse 1, N.Y.
Plants in Syracuse and San Francisco
Offices in Principal Cities

Send me Bulletin B-7 describing the many advantages of Lamson Billmyre Blowers and Exhausters.
174

For more details circle NED-367 F7 on enclosed inquiry slip

AIR COMPRESSORS
gasoline or electric powered

Paint spraying and various industrial and maintenance jobs are applications for the model 4-W four-cylinder Tankmobile air compressor. Equipped with a Pressure Queen compressor, it is powered by a ¾-hp, 115-230 v, 60-cycle ac capacitor motor or 1½ - hp four - cycle gasoline engine. Displacement is 5.37 cfm and free air delivery is 3.12 cfm at maximum 60 psi. Automatic pressure switch on electric model cuts in at 40 psi and cuts out at 60 psi. Tank is 10-gal size. Both models sell for $199.50. Made by **Campbell-Hausfeld Co.,** 193 Railroad Ave., Harrison, O.

For more details circle NED-368 F7 on enclosed inquiry slip

POLAROID SAFETY GOGGLES
light density is variable

Foundrymen, melters and electric furnace operators wearing these AO Polaroid safety goggles get extra protection, plus flexibility of light control. These war surplus goggles are the headband type with soft rubber eyepieces and nose pads. Light density is variable through rotation of knob at front of frame from thin smoke shade to near black-out. Double lens affords extra protection against flying particles. Ventilation controls fogging and sweating. Offered at $2.50 per pair by **Edmund Scientific Co.,** 180 E. Gloucester Pike, Barrington 25, N. J.

For more details circle NED-369 F7 on enclosed inquiry slip

AC VOLTMETERS
three frequency ranges offered

Stable transistorized vacuum tube voltmeters, available in three different frequency ranges, measure 3¼ in. wide by 5¼ in. high and weigh 30 oz. The D-21 series covers ranges of 10 cps to 1 mc, 5 cps to 500 kc and 10 cps to 500 kc. Accuracy exceeds ±3 per cent over most of range. Readings from 1 mv to 300 v are available full scale; accurate readings can be made down to 50 mv. Battery operated, instruments employ high alpha cut-off transistors and also serve as null indicators, broad band amplifiers and sensitive ammeters when used with shunt resistors. Made by **Alto Scientific Co.,** Dept. NE, 855 Commercial St., Palo Alto, Calif.

For more details circle NED-370 F7 on enclosed inquiry slip

IMPROVE YOUR MATERIALS HANDLING TECHNIQUE WITH

Let the lightness, durability, resistance to oils, greases, moisture, impact and abrasion of Spaulding Vulcanized Fibre Receptacles help solve your materials handling problems.

SEND FOR FREE CATALOG

SPAULDING FIBRE COMPANY, INC.
Dover, N. H.

Please send me your free catalog of Spaulding Vulcanized Fibre Receptacles for materials handling and storage.

Name
Firm
Address
City Zone State

For more details circle NED-371 F7 on enclosed inquiry slip

For more details circle NED-372 F7 on enclosed inquiry slip

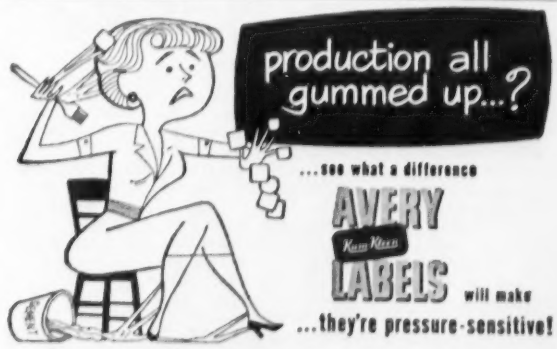
16-PAGE BULLETIN SHOWS HOW TO SAVE AIR, GAS, STEAM!

New, colored, well-illustrated bulletin describes the completely self-contained, self-operated Builders Shuntflo Meter. These direct-reading, easy-to-install meters (for 1" to 24" lines) are installed directly in your pipeline to accurately totalize air, gas, or steam usage.

Send for Shuntflo Bulletin today! **Builders-Providence, Inc., 425 Harris Ave., Providence 1, R. I.**

BUILDERS-PROVIDENCE
DIVISION OF
B-I-F INDUSTRIES
METERS RECORDERS CONTROLS

For more details circle NED-373 F7 on enclosed inquiry slip



■ Self-adhesive Avery Labels are quick, clean and neat... there's no mess, no fuss, no sticky fingers. Combined with patented Avery dispensers, they'll speed and simplify your labeling – and production! They're laid right on your product – *without moistening.* They'll put your trade mark on that hard-to-label surface... put a warning sticker or wiring diagram on your product or any clean, smooth spot. For inspection stickers... color coding... guarantees – they'll really speed production, packaging or any labeling or marking job!

■ Available in sheets or rolls... in any size, shape or color. Write for case histories and FREE SAMPLES – *today!*

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☐ Send us case histories & free samples
☐ Tell us about your dispensers
☐ Have the Avery Label man call

Name
Company
Address
City State

For more details circle NED-374 F7 on enclosed inquiry slip

Super Sharp

BECAUSE IT'S Super Honed!

MEYCO – *the finest money can buy!*

Each carbide tip has an EXTRA, fine-grit, diamond honed, lapped edge for razor-keen sharpness, for smoo-oo-th cuts, for long, long life . . . fine steel blades are engineered for carbide tipping; carbide tips and blade go together like ham and eggs. This EXTRA quality is reflected in YOUR results! Many years of experience with carbide gives MEYCO the know-how that is so valuable to you. Practically any sized blade, any number of teeth, standard or specials . . . your inquiry is invited. Write for Catalog No. 29.

EST. 1888

W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-375 F7 on enclosed inquiry slip

Bendix Bantam
2-WAY RADIO

ALL NEW!
Low Power 2-Way FM Radio For All Types Of Industrial Trucks

A single 6/12/24/32 VDC and 117 VAC Communications Unit without costly converters. Operates as mobile or base station.

The most versatile, rugged, low-power industrial radio you can buy, the Bendix* Bantam is the result of over 5 years intensive research and development. Designed and engineered specifically for industrial trucks, it sets a new standard for dependability. Incorporating all the latest electronic advancements which have made Bendix the foremost leader in railroad and aviation communications, the Bantam makes possible real savings in materials handling operations. By equipping your fleet with the Bendix Bantam, you have instant voice contact with each operator. Results: Vehicle traffic is better coordinated, tie-ups avoided, deadheading eliminated and dollars saved.

The Bendix Bantam operates on 6, 12, 24, 32 VDC or 117 VAC without converters. Battery drain is less than a headlamp—the lowest of any mobile radio equipment on the market!

The Bendix Bantam enables mixed fleets to operate with a minimum number of sets, allowing complete interchangeability from one truck to another whether gas, electric, diesel or LPG powered. Mail coupon for full details.

*Reg. U.S. Pat. Off.

DIVISION OF BENDIX AVIATION CORPORATION BALTIMORE 4, MD.

Bendix Radio

Bendix Radio
Mobile Sales, Dept. L
Baltimore 4, Md.

Gentlemen:
Please send me complete details about the Bendix Bantam 2-Way Radio.

Name _____
Title _____
Firm _____
Street _____
City _____ State _____

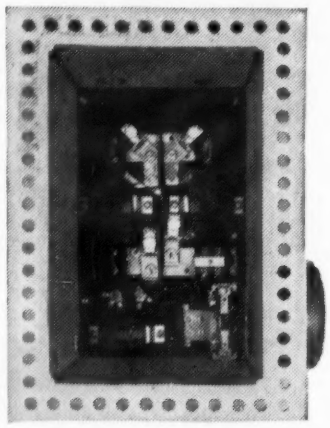
For more details circle NED-376 F7 on enclosed inquiry slip

COOLING TOWERS have light, inert plastic packs

Flow-Mizer cooling towers for air conditioning and industrial liquid cooling applications feature lightweight, chemically inert plastic packs. Sheets are held in file-drawer mountings which are easy to remove for inspection and cleaning. Capacities of these new models range from 20 through 200 tons. In a 100-ton tower, plastic pack weighs 180 lb as compared to 2300 lb for steel pack normally required in this size. Units are hot-dip galvanized after fabrication to 0.004-in. thickness. Water treatment is simplified with the external sump, as is servicing of sediment screen and draining of units. Made by **Acme Industries, Inc.**, 450 Mechanic St., Jackson, Mich.

For more details circle NED-377 F7 on enclosed inquiry slip

MOTOR PROTECTING RELAY operates on time-current relation



Any three-phase induction motor can be protected against failure due to shaft overload, voltage unbalance and/or single phasing by the ESCO type TS motor-protecting relay. Symmetrical components effect a drop-out of any motor that begins to overheat dangerously from these causes. Relay matches nameplate data of motor for which it is intended. Since it operates on a time-current relation, relay will not drop out in a momentary loss of one phase. Also, it will stand across-the-line starting where starting time is no more than 20 seconds and starting current no more than six to seven times normal. Made by **Electrical Service Co.**, Ardis Heights, Greenville, Tex.

For more details circle NED-378 F7 on enclosed inquiry slip

Packings & Gaskets

Rhopac, Inc.—48-page illustrated "Handybook" contains selection, design and application information on industrial gaskets, mechanical packings, boiler gaskets, packing hooks and steel rule dies. Also outlined are company's facilities for die cutting and fabricating of nonmetallic materials.

For more details circle NED-379 F7 on enclosed inquiry slip

LUBRIVAL

—a new, different, better CIRCULATING OIL SYSTEM

Bulletin 70 tells how it works, where to use it

LubriVal is specifically designed for safe, sure, foolproof circulating lubrication of presses and automatic and semi-automatic machines.

LubriVal is a Farval system, employing the Dualine principle of pumping oil under pressure to measuring valves which deliver it to bearings. Lubricant is fed by positive piston displacement.

LubriVal Progressive Dualine Valves, manifolded in any number required, have individual sight indicators, with pressure sensing mechanism which warns of clogged or broken lines in *any part* of the system —a feature entirely new to circulating oil systems.

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

Bring your file up to date with Bulletin 70

The Farval Corporation
3283 E. 80th St. Cleveland 4, Ohio
Sales Representatives in all major industrial market centers

For more details circle NED-380 F7 on enclosed inquiry slip

MAG sez: it's *Free!* send for new

CATALOG of Permanent MAGNETS

Most complete line of standard stacked magnets — sintered and cast — ever assembled in a single catalog. Magnets for every use . . . electronics thru toys. All shapes, all sizes. Write, now.

PERMAG CORP.
210 TAAFFE PLACE
BROOKLYN 5, NEW YORK
Teletype No. N. Y. 2-4957
Telephone: MAin 2-0114

For more details circle NED-381 F7 on enclosed inquiry slip

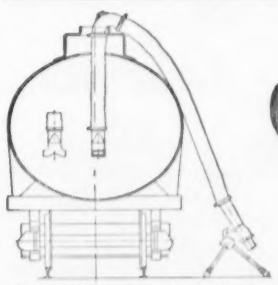
WHAT...
NO **UNIVERSAL**
DRILL BUSHINGS?

You'll get fast delivery—often within 24 hours—on all standard sizes and lengths of drill bushings when you order from Universal's big stocks in any of three warehouses located at Frankenmuth, Michigan; Kenosha, Wisconsin; and Newark, New Jersey.

Send request on your company letterhead for free Universal Drill Bushing Selector. Gives all engineering data for selecting bushings up to 1¾" drill size.

UNIVERSAL ENGINEERING CO.
FRANKENMUTH 5, MICHIGAN
204

For more details circle NED-382 F7 on enclosed inquiry slip



TANK CAR is easily freed of fumes for workers' safety.

KEEP AIR FRESH
in confined places with COPPUS
Design "A" Ventilator

CHEMICAL STILL is here ventilated while being repaired.

Improve workers' safety—health—comfort—efficiency. Get rid of dangerous gases, fumes, stagnant air. Coppus Design "A" Ventilator ventilates tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages. For complete information, write Coppus Engineering Corporation, 406 Park Ave., Worcester 2, Mass. Sales Offices in *Thomas' Register*.

Other "Blue Ribbon" Products in *Chemical Engineering Catalog, Refinery Catalog, Best's Safety Directory* and *Mining Catalogs*.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

For more details circle NED-383 F7 on enclosed inquiry slip

MARSHALLTOWN

Capacities from 18 Gauge to ½"
Cuts any SIZE . . . any SHAPE

America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

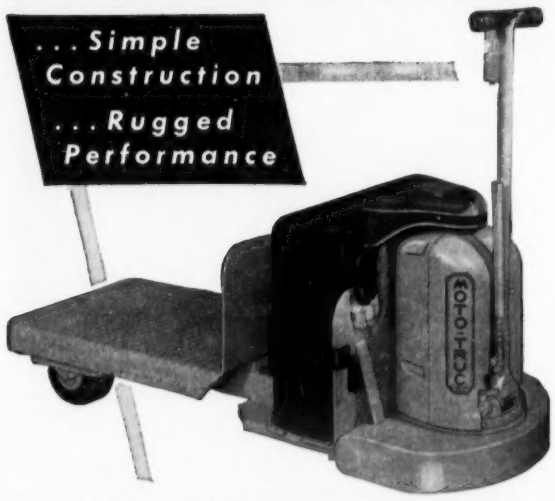
Built for extra heavy duty use. High grade tool steel cutters.

Write today for details and prices.

MARSHALLTOWN MFG. CO., Marshalltown 2, Iowa

▲ For more details circle NED-384 F7 on enclosed inquiry slip ▲

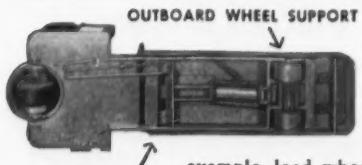
MOTO-TRUC
Low Lift Platform Truck



You can't beat Moto-Truc low lift platform trucks for skid handling efficiency. They're small enough to maneuver in the tightest spots, yet tough enough for outstanding performance on your roughest handling job.

Simplicity is the key to Moto-Truc performance. The powerful gear drive unit-exclusive internal expanding brakes-patented "Roller Grip" travel control--all are among the features that guarantee lower operating costs, less maintenance and greater dependability.

The standard platform truck, model MTP, is only 24" longer than your load while the extra short model MTP-SC adds only 17" to the load length. Both are built in 4,000, 6,000 and 10,000 pound capacity with a wide range of platform sizes.



A LOOK UNDERNEATH

Moto-Truc Platform Trucks use simple construction. For example, load wheels are supported on both sides to take a pounding, and lift hinges run all the way across the platform for maximum load support.

Write Today For Bulletin 56W.

Builders Of The First Walkie Truck

Largest Exclusive Manufacturers of "Walkies" and Ride-A-Man Trucks

The MOTO-TRUC Co.

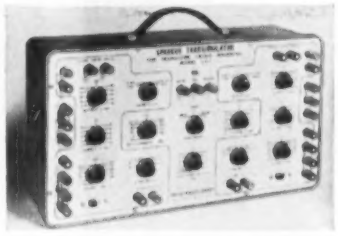
1961 E. 59th St. • Cleveland 3, Ohio

Pallet . . . Platform . . . Hi-Lift Trucks

Representatives in Principal Cities

▲ For more details circle NED-385 F7 on enclosed inquiry slip ▲

CIRCUIT SIMULATOR
eliminates breadboard layouts



Any alternating current or direct-coupled amplifier stage short of high power audio output can be simulated with the LF-1 transistor circuit simulator. Multivibrator, switching, phasing, push-pull and Class A and B circuits can also be simulated by using cross-coupled Transimulators. Common or grounded emitter, base or collector circuits are duplicated by using PNP, NPN or surface barrier transistors. Need for breadboard layouts is eliminated. Built-in battery voltage supply for separate bias and load provides 1.5, 3, 4.5 and 6 v dc. Switch reverses polarity. Made by **Sprague Products Co.,** 183 Marshall St., North Adams, Mass.

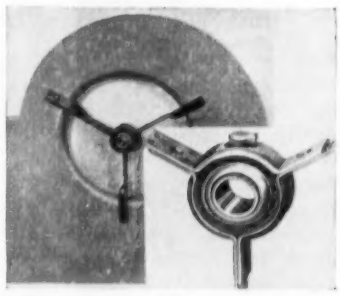
▲ For more details circle NED-386 F7 on enclosed inquiry slip ▲

SLOTTED NUT WRENCH
used in carpenter's brace

Three sizes of the Flexco Super wrenches are used in a carpenter's brace for tightening slotted Flexco belt fastening nuts. Its two lugs fit in the nut slots and span the bolt end. Wrench is made of wear resistant alloy steel, is satin chrome plated and can also be used in a ½-in. square hole ratchet wrench. Made by **Flexible Steel Lacing Co.,** 4607 Lexington St., Chicago 44, Ill.

▲ For more details circle NED-387 F7 on enclosed inquiry slip ▲

BALL BEARING MOUNT
has improved three-arm support



This pressed steel Hiawatha ball bearing shaft mount features an improved Tri-Arm mounting for increased strength of housing and bracket. Latter enables blower units on which installed to withstand severe handling encountered in shipping. Multiple pads of the neoprene liner increase resilience over solid cushions, provide ventilation over bearing, and prevent rotation of ball. Double-end floating wedge retains ball within formed socket. A simple action inserts or removes ball unit without interference from oil cup or coil tube of any length. Made by **Triangle Mfg. Co.,** Dept. M-5, Oshkosh, Wis.

▲ For more details circle NED-388 F7 on enclosed inquiry slip ▲

New Low-Cost Ways to

SAVE YOUR PUMPS

FILTROS
"Flo-Clear"
LIQUID FILTERS

The complete line of filters for water and many other liquids. New Model C (top left), for "in-the-line" use, may be installed anywhere most convenient. 3 other models are for use at end of supply line—in stream, pool, lake, tanks or solution vats.

In addition to uses with liquids, the "Flo-Clear" filter will remove sediment, oil, moisture and suspended impurities in compressed air and gas lines. Write for free literature.

We can also help you with other filtering problems, with either one of our many standard products, or a new one designed and built to your individual specifications. Write us today.

ENGINEERING, DESIGN Service

FILTROS also Produces Porous Ceramic Media for: AERATION, FILTRATION, DIFFUSION, ELECTROLYSIS, GAS ABSORPTION, CATALYST SUPPORTS, AIR CONVEYOR SYSTEMS.

Consult us about your Needs.

FILTROS INC.

610 West Commercial St.
East Rochester, N.Y.
Manufacturers of Porous Ceramics for Industry since 1913

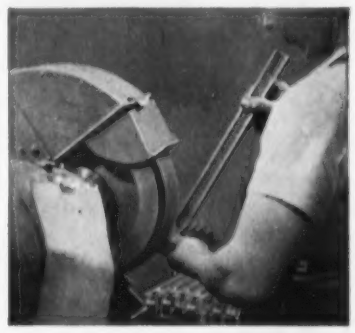
▲ For more details circle NED-389 F7 on enclosed inquiry slip ▲

For reducing finishing costs . . .

try JEWEL BRAND
ABRASIVE BELTS

THE UNIFORMLY-HIGH QUALITY of JEWEL BRAND Abrasive Belts saves time, reduces operator fatigue and results in lower finishing costs. It is obtained through a simple system of continuous quality control made effective by the attitude and skill of veteran workers. All JEWEL BRAND belts feature the unique velvet joint . . . longer lasting according to performance records.

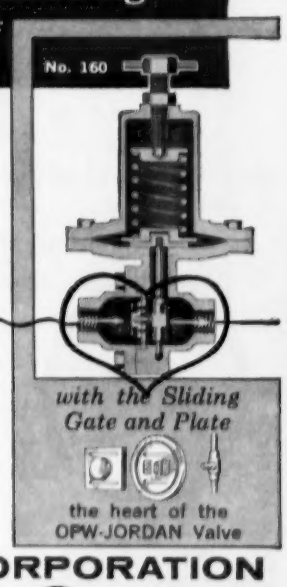
JEWEL BRAND belts are available in the precise size and grit to meet every grinding, finishing or polishing need. For details, write ABRASIVE PRODUCTS, INC., 525 Pearl St., South Braintree 85, Mass.



JEWEL BRAND
coated **ABRASIVES**

▲ For more details circle NED-390 F7 on enclosed inquiry slip ▲

OPW-JORDAN
pressure reducing
VALVE*



- DEAD END SHUT-OFF
- WIRE DRAWING MINIMIZED OR ELIMINATED
- SELF-LAPPING SEAT
- NO HUNTING . . . SHORT STROKE FOR IMMEDIATE RESPONSE

THE DIFFERENT AND IMPROVED WAY TO CONTROL PRESSURE.

The unique basic design and exclusive features of this valve are responsible for its outstanding performance and long dependable service life—its precise regulation with immediate response and unusual sensitivity.

*Daily replacing troublesome pilot operated valves.

For more facts, write for Bulletin J-160.

JORDAN CORPORATION

Division of OPW Corporation

6013 WIEHE ROAD
CINCINNATI 13, OHIO
ELmhurst 1-1352

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in Engineering Drawing Reproduction

Kodagraph Reproduction Materials eliminate tedious retracing . . . produce better shop prints . . . simplify print production. Whether you make your own prints or use a blueprint, it will pay you to know them.

Kodagraph Repro-Negative Paper gives you positive photographic intermediates directly from blueprints and other negatives.

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Graphic Reproduction Division
Rochester 4, N. Y.

Kodak

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there's an amazing
CONCENTRATION OF HEAT
in this tiny cartridge unit!

the new WATLOW
FIREROD
cartridge heaters

ACTUAL SIZE
(7/8" long, 3/8" dia.)
Rating: 115 V.— 125 W.

Example of Application
Used to heat metal die to 900° F. forming titanium in the Aircraft Industry.

A new design advantage for you.
As much heat in 1/5th the space. Standard units from 1¼" to 12" long, 3/8" and ½" dia.
WRITE . . . for Illustrated Bulletin.

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Since 1922—Designers and Manufacturers of Electric Heating Units
ELECTRIC MFG. CO.
1374 FERGUSON AVE.
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For more details circle NED-393 F7 on enclosed inquiry slip

Your PROFITS
are in the balance....
Choose DETECTO
the scale with these 3
Exclusives

1. Exclusive all-steel construction and all-steel lever system assures longer, trouble-free scale life and less maintenance cost.

2. Unique outboard bearing design prevents platform tipping. This means that you get *completely* accurate weighing on any part of the scale.

3. DETECTO's tare and weigh beams extend the dial capacity 125%. This means that you get greater gross weighing with minimum dial graduations.

Fractional weighing errors may seem inconsequential, but they add up to a staggering annual loss. When materials mean money, you are wise to depend on DETECTO, the most dependable name in precision industrial scales for more than half a century. DETECTO makes scales for every industrial need, ranging from 1/100 oz. to 50 tons. Models for packaging, parcel post, printing, counting, over-under attachment, portable beam, etc. Write for free, no-obligation catalog.

SALES and SERVICE
in all principal cities

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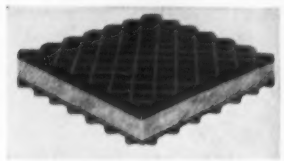
550 Park Avenue, Brooklyn 5, N. Y.
Since 1900
Gentlemen:
Please send me catalog #651 describing DETECTO precision industrial scales. This, of course, obligates me in no way.
Name.....
COMPANY.....
City.....Zone.....State.....

For more details circle NED-394 F7 on enclosed inquiry slip

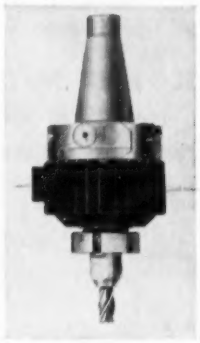
VIBRATION MACHINE MOUNTING
in 60 and 120 psi capacities



A nonslip cushion for mounting machinery without bolting is afforded by this Waffle-Grip Elasto-Rib pad-type vibration mounting. Pad consists of layer of resilient cork permanently bonded between two layers of oil-resistant neoprene embossed with a waffle-type pattern. It is made in standard and high capacity types for 60 and 120-psi loads, respectively. Cross ribs increase pad deflection and afford all-directional resistance to machine movement. Made by **Korfund Co.**, 48-19H 32nd Pl., Long Island City 1, N. Y.

For more details circle NED-395 F7 on enclosed inquiry slip

END MILL DRIVER
accommodates 3/8 to 1-in. end mills



Provision for offset positioning built into this end mill driver produces an orbital (or eccentric) motion of the cutting tool which permits one-pass cutting of keyways with undersize end mills. It also partially eliminates the need for special diameter sizes. This motion also increases chip clearance, insures square slots and permits milling true-to-centerline on keyways. Driver has a 4:1 speed ratio between spindle and cutter. It will accommodate end mill shank sizes from 3/8 to 1 in. Eccentric micrometer positioning ranges from 0 to 0.062-in. off center. Made by **Portage Double-Quick, Inc.**, 1043 Sweitzer Ave., Akron 11, O.

For more details circle NED-396 F7 on enclosed inquiry slip

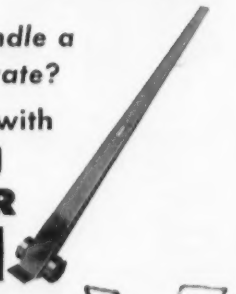
FLOOR MARKING MACHINE
paints line within 1/2-in. of barrier

Employing a Dynel paint roller, this Roll-On marking machine will paint safety or parking lines to within ½-in. of any barrier. It will also continue the line vertically by rolling up a curb or wall. Rollers are 2, 3 or 4 in. wide. Paint feeds directly onto roller from above through multiple brass valves, and flow is controlled by pressure on trigger handle. For painting lines parallel and as close as 3/8-in. to side wall, the X model is available. Paint capacities of 1½ and 5 gallons are offered. Made by **H. C. Sweet Co.**, 12345 Telegraph Rd., Detroit 39, Mich.

For more details circle NED-397 F7 on enclosed inquiry slip

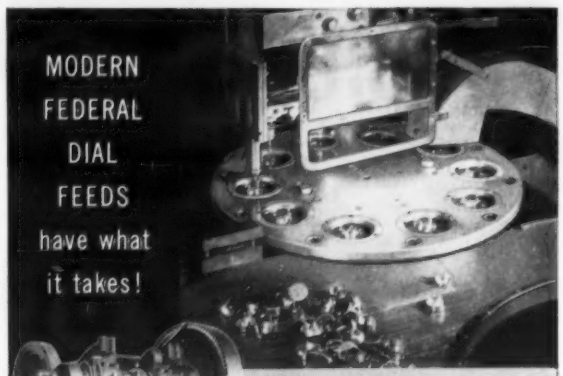
Did you ever try to handle a HEAVY roll of paper, drum or barrel?
You can do it easily with the IRONBOUND RōL TRUK

Did you ever try to handle a HEAVY machine or crate?
You can do it easily with the IRONBOUND PRY BAR

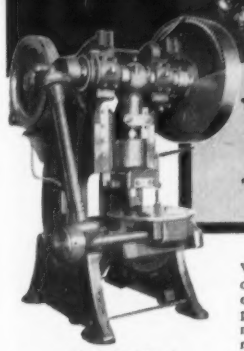


IRONBOUND
55 Hoffman Place • Hillside, N. J.

For more details circle NED-398 F7 on enclosed inquiry slip



MODERN FEDERAL DIAL FEEDS have what it takes!



VERSATILITY plus AUTOMATION

What's the job? A standard operation—or one that's unique to your plant? Modernize with Federal Dial Feeds and watch production go up, costs go down. Eliminate need for expensive equipment. Finest materials and workmanship. 6 to 80 tons. Automatic feeds and ejectors if desired.

No. 7 Dial Feed
Capacity, 80 tons
Write for new Dial Feed Catalog

THE FEDERAL PRESS COMPANY
706 Division Street, Elkhart, Indiana

FEDERAL DIAL FEED PRESSES
32 Years' Experience in Dial Feed Engineering and Construction

For more details circle NED-399 F7 on enclosed inquiry slip

The Standard of Excellence!

VACO
BREAK-PROOF
SHOCK-PROOF
Screw Drivers
Fire-Safe Amberyl Handle
Chrome Vanadium Steel Blade
Unconditionally Guaranteed
More than 200 Styles & Sizes!
Straight Slot
Phillips
Clutch Head
Nut Driver
Offset

For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

For more details circle NED-400 F7 on enclosed inquiry slip

Save on Your INDUSTRIAL TRACK

FULLY GUARANTEED

FOSTER Quality RELAYING RAILS

Lower installation and maintenance costs—handle more cars better.

Depend on Foster to match sizes and specifications to your exact requirements on any track job. Foster's nationwide warehouses also stock every Section of New Rail, 12# thru 175#, Switch Material and Track Accessories.

FASTER FOSTER
SEND FOR CATALOGS NE-6

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For more details circle NED-401 F7 on enclosed inquiry slip

ARMSTRONG

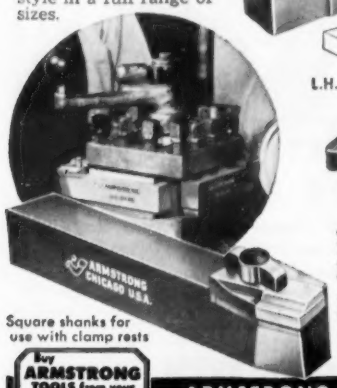
Carbide Insert TOOL HOLDERS

ARMSTRONG Carbide Insert Tool Holders are of two types, (1) for use in conventional tool posts (2) for use with clamp rests. Right-hand and left-hand tools for holding either triangular or square Armide "throw-away" inserts. Each style in a full range of sizes.

for use in conventional tool posts.

L.H. Tools R.H. Tools.

Triangular (6 edge) Inserts Square (8 edge) Inserts



Square shanks for use with clamp rests

Carried in stock by leading Industrial Distributors everywhere. These efficient, economical tools end all tool grinding, save tooling-up time and cut costs.

Buy ARMSTRONG TOOLS from your Industrial Distributor

Write for Circular

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVE. • CHICAGO 30, ILL.

For more details circle NED-402 F7 on enclosed inquiry slip

Homelite Carryable Pumps Get Rid of Water Fast

Water causes delays. Man hour losses mount. Best cure for this headache is a Homelite Carryable Pump. Does its job fast. Pumps up to 15,000 gals. per hour. Guaranteed 28 foot suction lift. Fast starting Homelite gasoline engine. Lightweight for easy carrying. Fast, automatic, dependable, rugged. For top pumping performance you can't beat a Homelite. Write or call your nearest Homelite representative for a free demonstration.

HOMELITE
A DIVISION OF TEXTRON INC.
8506 RIVERDALE AVE., PORT CHESTER, NEW YORK

For more details circle NED-403 F7 on enclosed inquiry slip

ADJUSTABLE SPEED DRIVES
two-groove 15 to 20-hp units

Horsepower - transmitting capacity of Super-Service Wedgebelts makes possible the use of these two-groove C adjustable-speed drives for 15 to 20-hp service and motor speeds of 1160 and 1750 rpm. Drives permit stepless speed adjustments up to 26 per cent. They are offered in 8.5-10.7, 9.5-11.7 and 10.5-12.7-in. pitch diameters. A split tapered bushing is available for the three diameters. Made by **American Pulley Co.**, 4245 Wissahickon Ave., Philadelphia 29, Pa.

For more details circle NED-405 F7 on enclosed inquiry slip

CIRCULAR SAW BLADES
chrome plated for long wear

Chrome plating extends life of these Super-Chrome circular saw blades three to five times. The hard chrome protects the cutting points of the teeth from normal wear and dulling. The wood saws are offered in rip, crosscut, novelty, combination and hollow ground planer types. An introductory set which includes 8-in. combination, crosscut and rip blades is offered for $6.96. Made by **Cocker Saw Co.**, Dept. SC, Lockport, N. Y.

For more details circle NED-406 F7 on enclosed inquiry slip

SMOKELESS INCINERATOR
in 7, 10, 15 and 20-bushel sizes

Series S incinerator for industrial and commercial use is offered in 7, 10, 15 and 20-bushel capacities. Unit has top feed with low loading height, a dehydrating hearth to dry out refuse, three secondary expansion chambers with extra long fire-travel and downdraft design to eliminate smoke and odor. Installed indoors or out, the model S is available for fuelless operation on 80 per cent dry refuse, or can be equipped to burn oil, natural or bottled gas, or operate by electricity. It can be shipped assembled on a steel plate, or knocked-down. Automatic controls, over-fire burners and special equipment are optional. Made by **Winnen Incinerator Co.**, 932 Broadway, Bedford 10, O.

For more details circle NED-407 F7 on enclosed inquiry slip

Sarco TD steam trap. 3/8 to 1". Each as small as a tee fitting!

REVOLUTIONARY STEAM TRAP
One large capacity seat for all pressures—10 to 600 psi!

MANY ADVANTAGES

1. Cuts steam trap inventory—you use same Sarco TD... with same large capacity seat for 10 as for 600 psi. No changes or adjustments.
2. Operates equally well on light, heavy or no condensate loads.
3. Operates perfectly when pressure fluctuates...even from 600 to 10 psi!
4. No oversizing worries...no risk of blowing steam on light condensate loads. No prime to lose. No adjustments.
5. Practically no maintenance ...only a body, cap and valve disc...all stn. steel. No valve mechanism.

60-day Trial Convinces

Specify size (3/8 to 1") and use. Write to Sarco Company, Inc., Empire State Bldg., New York City. 5182-F

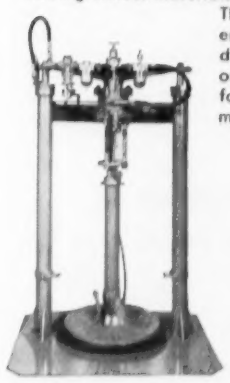
SARCO

For more details circle NED-408 F7 on enclosed inquiry slip

Pyles Multi-Purpose INDUSTRIAL PUMPS
for flowing materials from 5-gallon pail or 55-gallon drum

● Foot valves are available in three types—"Abrasive" for sand and abrasive materials—"Double Ball" for oil, grease, paint, glue free-flowing compounds—"Chopping Check" for heavy fibrous material—piston ratios are available from 1 to 1 to 80 to 1.

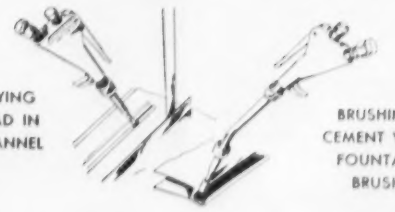
DOUBLE ELEVATOR BARREL CLEAN PUMPS can be furnished with either 6" or 8" air motor and with either 3½" or 5½" Double Elevator . . . The pumps are designed for flowing viscous materials direct from original container . . . Their rugged construction and power enable them to flow materials long distances through Hi Pressure Hose or Manifold Systems . . . Action of follower plate assures use of all material in the barrel.



5-GALLON PAIL TOP PUMPS

● The Pail Top Pump is for materials that are free-flowing . . . The unit seals the pail so that materials are not exposed to air or contamination . . . This pump can be converted into 37 different models.

PYLES—TIP—SEAL→FLOW GUNS



LAYING BEAD IN CHANNEL

BRUSHING CEMENT WITH FOUNTAIN BRUSH

● The Pyles Tip Seal Flow guns are available in five different models with over 500 different style nozzles, extensions and fountain brushes.

PYLES INDUSTRIES, INC.
8926 SECOND AVENUE • DETROIT 2, MICHIGAN

For more details circle NED-409 F7 on enclosed inquiry slip

weighs only 35 lbs.

ALCO-LITE TYPE 600 WAREHOUSE LADDER

Although it's built for the roughest, heaviest warehouse duty—it can be handled very easily by a single person.

Only a ladder made of high tensile strength aluminum alloy can be made so strong, yet be so lightweight. Type 600 is built with heavy gusset plates and riveting throughout. The ladder stands 5' high and features a roomy 14" by 18" non-slip platform and 6" wide corrugated non-slip steps. Additional safety features include a hand rail and rubber feet on the front legs. Rubber tire casters on the rear legs make the ladder very maneuverable. More than meets ASA and Metal Ladders Association standards.

Where storage is a problem—these ladders can be built to fold.

For NEW General Catalog, plus further information on Type 600 write to Department 5M.

Each step is permanently riveted with 8 rivets – 2 in front and 2 in back, on both sides.

Original Manufacturer of Aluminum Ladders
Aluminum Ladder Company
WORTHINGTON PENNSYLVANIA

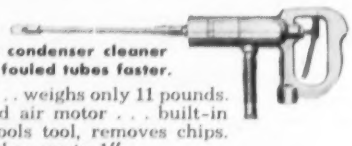
For more details circle NED-404 F7 on enclosed inquiry slip

ROLL 800 TUBES IN 2 HOURS with AIRETOOL'S AUTOMATIC TUBE EXPANSION CONTROL SYSTEM

That's the record recently set by mechanics at a Buffalo, New York, iron works.* 800 heat exchanger tubes . . . 1600 tube ends . . . of ¾ OD x 18 gage tubes rolled in just two hours, *including* changeover of equipment from one end of the heater to another. Find out how Airetool's Tube Expansion Control System can help you roll faster, tighter, more perfect tube joints. Contact us for an ON-YOUR-JOB demonstration.

*Name upon request.

Learn too, how AIRETOOL'S lightweight 1-man condenser cleaner can help you clear fouled tubes faster.



Outside mounted . . . weighs only 11 pounds. High speed muffled air motor . . . built-in flushing system cools tool, removes chips. Cleans plugged tubes up to 1"

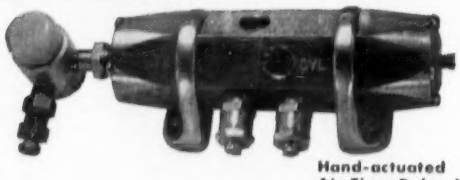
AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge. REPRESENTATIVES in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii. EUROPEAN PLANT: Vlaardingen, The Netherlands. CANADIAN PLANT: 37 Spalding Drive, Brantford, Ontario

▲ For more details circle NED-410 F7 on enclosed inquiry slip ▲

IT'S NEW BECKETT Hi-CYCLIC AIR TIME DELAY VALVE

Solenoid-operated Air Time Delay Valve



Hand-actuated Air Time Delay Valve

- Adjustable delay time to 30 seconds. Accurate repetition.
- Solenoid and hand-actuated models for air and hydraulics.
- Sizes ⅛" through 1" NPT ports.
- Standard or manifold mounting.
- Time delay unit for hand-actuated valve can be supplied in kit form for remote mounting.
- Exhaust controls optional for air models.

. . . For any directional Control Valve Requirement

first check it with Beckett!

✔ A complete line of advanced-design air and hydraulic control valves. More than 150 models—solenoid, manifold, piloted, solenoid piloted, lever, cam roller, spring center, detent and combinations of these actuators.

✔ All spool types: 2 position, 3 position, float piston, open center, closed center, servo, port exhausting center position.

✔ All carried in stock for immediate delivery. Write for complete valve catalog or detailed information on Hi-Cyclic Valves to meet your specific requirements.

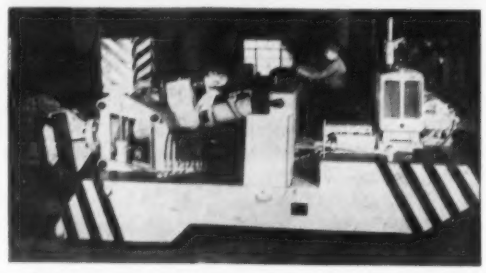
DISTRIBUTORS IN MAJOR CITIES COAST-TO-COAST

THE BECKETT-HARCUM COMPANY
1147 WAYNE ROAD, WILMINGTON, OHIO

▲ For more details circle NED-411 F7 on enclosed inquiry slip ▲

FORGING MANIPULATOR capacities range to 20,000 lb

Unlimited floor travel and hydraulically actuated and controlled work-handling motions are features of this Auto-Floor forging manipulator. Made in capacities



from 2000 to 20,000 lb, machine has mechanical and hydraulic shock-absorbing construction to withstand severe shock resulting from manipulating metals of minimum plasticity during forging. It can be powered by diesel, gasoline or propane engines or by electric motors. Machine is particularly suited for forging operations involving high alloy steels and refractory type alloys. Made by **Salem-Brosius, Inc.**, 16 Arch St., Carnegie, Pa.

▲ For more details circle NED-412 F7 on enclosed inquiry slip ▲

FLOOR MACHINE heavy duty model with 22-in. brush

Starting easily under heavy load, the model 990 heavy duty floor machine with 22-in. brush is suited for floor areas of 20,000 sq ft and up. A 1-hp capacitor start motor drives the brush at 170 rpm through a planetary system of steel helical gears with a 10:1 reduction ratio. Machine is suited for scrubbing, shampooing, stripping, polishing, steel wooling, sanding and terrazzo grinding. Nonmarking neoprene wheels, white vinyl bumpers and dual switch controls on the handle are features. A 4-gal solution tank fastens to the handle for shampooing. Also available are 14, 16 and 18-in. heavy duty machines. Made by **Breuer Electric Mfg. Co.**, 5106A N. Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle NED-413 F7 on enclosed inquiry slip ▲

Abrasive Shot & Grit

Cleveland Metal Abrasive Co.—SAE specifications for all types of abrasive shot and grit are contained in 12-page illustrated catalog CMA 357. It also lists important characteristics, considerations and uses for entire 20th Century line made by the company. Methods and advantages of shot peening and impact cleaning and proper abrasive mixtures are presented.

▲ For more details circle NED-414 F7 on enclosed inquiry slip ▲

New!

RIGHT R and L LEFT

ON and OFF CENTER DRILLING ATTACHMENT

saves you second set-up and handling time!

Now, when an off-center hole is required in the end of a bar, you merely stop the spindle, bring this tool into the work and continue the operation. Compare this to taking the piece off the automatic, washing it, and setting it up on a drilling machine, and you can see what a real time and money saver this new R and L Tool is! Available in 3 standard sizes (⅝", ¾" and 1" dia. shanks.)

Write for literature and prices

RIGHT R and L LEFT TOOLS
1825 BRISTOL STREET • PHILADELPHIA 40, PA.

OTHER NEW R and L TOOLS: TOOL-SLIDE KNURLING TOOL FOR MULTI-SPINDLE AUTOMATICS (Also available for cross-slide) • TOOL HOLDER FOR MULTI-SPINDLE AUTOMATICS • RECESSING TOOL

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ELECTROLIFT solves our hoisting problems

Wide selection of dependable worm drive hoists with capacities from ¼ to 10 tons . . . compact . . . close headroom . . . precise control. Consult your local ElectroLift representative or write for complete catalog.

WORM DRIVE ELECTROLIFT HOISTS

4656

204 SARGEANT AVE., CLIFTON, N. J.

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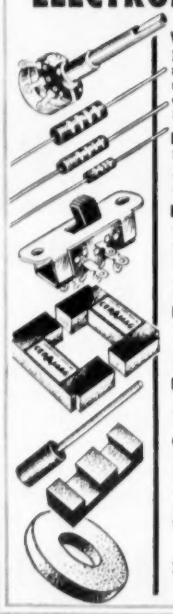
STACKPOLE

***Dependable* ELECTRICAL-ELECTRONIC COMPONENTS**



VARIABLE RESISTORS (Controls)
Dozens of standard composition-element types including single and dual concentric shafts and midgets for transistorized circuits. Choice of 9 switch types. Write for Bulletin RC-10B.

FIXED RESISTORS
½-, 1- and 2-watt composition types in all standard RETMA ranges. Packaged in strips, stacked layers or reels.

INEXPENSIVE SLIDE SWITCHES
Over 15 low-cost types for instruments, appliances, electrical toys, TV's and radios, record players, etc. AC and/or DC ratings from 0.5 to 15.0 amperes. Bulletin RC-10D.

FERROMAGNETIC CORES
Stackpole Ceramag cores offer maximum uniformity in high permeability, low-loss types. Bulletin RC-9A.

IRON CORES
Side-molded, sleeve, cup, threaded and insert types. Bulletin RC-10C.

CERAMIC PERMANENT MAGNETS
Stackpole Ceramagnet permanent magnets offer greater permanence, high electrical resistivity and fully usable energy without "keepers." Bulletin RC-10A.

Electronics Components Division
STACKPOLE CARBON CO.,
St. Marys, Pa.

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free!

GUIDE TO BETTER WORM GEAR SELECTION

Here's complete information on Foote Bros. famous worm gear sets—plus simple-to-follow selection procedure and helpful design suggestions. Engineering Manual SW No. 1 is your guide to proven worm gear performance. Write for it today!

FOOTE BROS.
Better Power Transmission Through Better Gears

FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Dept. NE,
Chicago 9, Illinois

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ATTENTION! Engineers • Architects Designers • Layout Men and Draftsmen

JUST FLICK UP THE LID

Get the kind of PENCIL POINT* You Want!

Ferance PRODUCTS

Universal PENCIL POINTER

Just flick up the lid, hold pencil against vibrating file, wipe point on felt pad, close lid, and the motor shuts off automatically. Quick—Easy—Efficient. Once you have used the Universal Pencil Pointer you'll see how old-fashioned any other method is. Write for further details, prices, discounts on quantity lots.

* Fine point, chisel, and all compasses.

WRITE TODAY for COMPLETE DETAILS

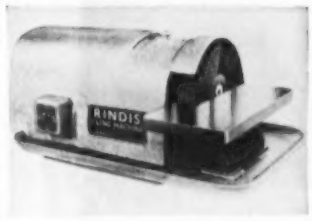
• Motor Driven—one-hand operation
• Clean—no flying dust or dirt
• For plain or chisel points
• Choice of six colors

Dealer Inquiries Invited
Special Discounts on Quantity Orders

FERANCE CONSTRUCTION CO.
28 WOODSIDE DR. PENFIELD, N. Y.

For more details circle NED-419 F7 on enclosed inquiry slip

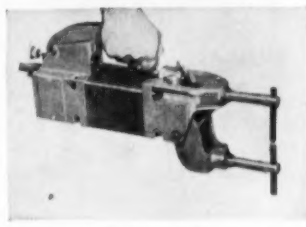
FILING MACHINE
used on moldings, wood, welds



Filing, trimming and deburring can be performed on such small components as moldings, pressings, castings, metal and wooden patterns, laminations and welded joints by the Rindis filing machine. Disks and rings with various tooth arrangements are provided for use at different speeds. Disks cut without heat, abrasive or coolant and retain their shape without redressing. The 12¼ x 4½-in. table can be locked at various angles. Material removed contains no abrasive or foreign matter and can be reclaimed. Available from **Newage Industries, Inc.**, Dept. NED, 222 York Rd., Jenkintown, Pa.

For more details circle NED-422 F7 on enclosed inquiry slip

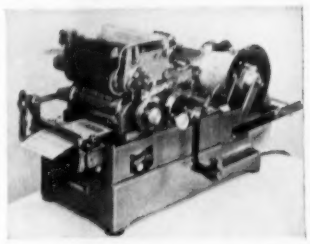
SPOT WELDER
tip pressure is easily set



Convenience of a "trip switch" is built into the No. P-166A spot welder. It features high welding current for its size and easily adjustable spring pressure, and can be used with one hand to minimize operator fatigue. Made by **Guthery Machine Tool Corp.**, Aro Spot Welders Div., 38-33 Crescent St., Long Island City 1, N. Y.

For more details circle NED-423 F7 on enclosed inquiry slip

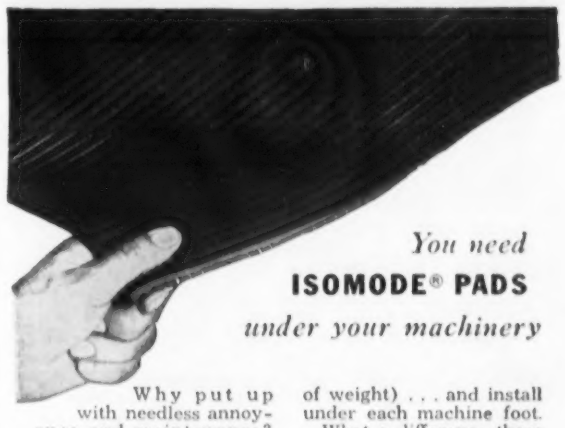
LABEL IMPRINTING MACHINE
prints up to 120 per minute



Special imprinting problems on labels and tags are handled by this European - made Wam label imprinting machine. All models will imprint on cloth, pressure-sensitive material, heat-seal paper, gummed labels, button tags, pin tickets, string tags, all forms of box labels and packaging identification labels in sizes from 1 x ½ up to 4¾ x 6¼ in. Labels with special identifications can be printed at 120 per minute. Features include consecutive numbering units; set numbering wheels; automatic preset counter; automatic label rewinds or cutting; interchangeable inking units; and two-color imprinting. Up to 23 lines can be imprinted on one label or tag. Distributed by **Jackmeyer Label Corp.**, Dept. W, 855 Avenue of the Americas, New York 1, N. Y.

For more details circle NED-424 F7 on enclosed inquiry slip

Noise? Vibration?



You need ISOMODE® PADS under your machinery

Why put up with needless annoyance and maintenance? Isomode Pads swallow up vibration from machines, absorb shock, cut down noise. Nothing to it. Just cut what you need from a standard 18" x 18" neoprene Isomode Pad (use 1 sq. in. for each 50 pounds of weight) . . . and install under each machine foot.

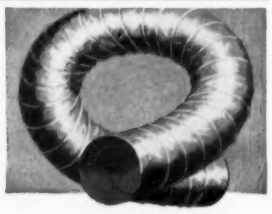
What a difference these Pads make! No lagging needed. You save floor, building and machine maintenance. And all at a low cost that'll surprise you. Try a package and see.

Also available as a leveling mount. Send for details.

MB manufacturing company
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Conn.

For more details circle NED-425 F7 on enclosed inquiry slip

facts about Spiratube®



that will help you solve your ducting problems

What is Spiratube?
A flexible, lightweight duct made of continuous helical coils of spring steel reinforced with overlapping plies of tough, multicoated fabric.

What are its applications?
It is used for removing air, gases, liquids and many solids at low pressure.

How flexible is Spiratube?
It will take bends up to 180° without buckling.

How much abuse can it take?
Plenty. Flex tests run to 280,000 times without apparent wear.

Are there different types of Spiratube?
Yes, five . . . in a variety of covers and in sizes from 3" to 30" I.D.

What about installation?
Sections of Spiratube can be linked together or detached in a matter of seconds without the use of tools. No elbows or fittings are required.

How can I make sure that Spiratube will solve my problems?
Write, outlining your requirements, to Dept. 26.

Sold through industrial distributors from coast to coast

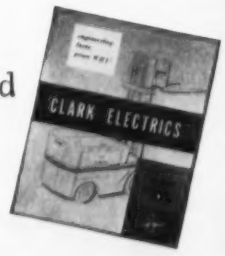
Flexible Tubing CORPORATION
GUILFORD, CONNECTICUT • LOS ANGELES 64, CALIFORNIA

For more details circle NED-420 F7 on enclosed inquiry slip

YOU GET MORE TON-MILES PER BATTERY CHARGE

A new free booklet gives engineering facts that prove why CLARK ELECTRICS are the most efficient trucks on the market.

Simply circle the reader service card for your copy.



CLARK EQUIPMENT
Industrial Truck Division
CLARK EQUIPMENT COMPANY
BATTLE CREEK 21, MICHIGAN

For more details circle NED-421 F7 on enclosed inquiry slip

Randall FLANGE PILLOW BLOCKS

GREATER EFFICIENCY AND ECONOMY IN EVERY SIDE-MOUNTED APPLICATION

QUIET IN OPERATION
AUTOMATIC SELF-LUBRICATION
SELF-ALIGNMENT
LONG TROUBLE-FREE SERVICE

Like all Randall Pillow Blocks, these flange models incorporate Randall's "DEEP-WELL" ball assemblies with a grooved and graphited cast-bronze bushing. The unique automatic double lubricating principle, coupled with Randall's exclusive graphite mixture, permits extended periods of operation without maintenance. Easier to install

Randall Flange Pillow Blocks are available for most side-mounted applications for shaft sizes from ½" to 3 ".

Randall Pillow Blocks may be modified for unusual conditions and adapted to many different styles of lubrication. In smaller shaft sizes, Randall Pillow Blocks are available with sintered bronze bushings for light duty applications. Contact your nearby Randall distributor today. He's listed in the yellow pages of the telephone directory under "Bearings."

RG10

Randall

LOOK TO RANDALL FOR YOUR SLEEVE BEARING REQUIREMENTS

Clip this coupon to your letterhead, include your name and department and send it to Randall Graphite Bearings, Inc. We will send you the complete Randall Pillow Block Catalog.

RANDALL GRAPHITE BEARINGS, INC.
1007 South Greenlawn Avenue, Lima, Ohio

For more details circle NED-426 F7 on enclosed inquiry slip

Deep drawn shapes lower costs

Lighter weight...stronger...more streamlined, Hackney deep drawn shapes and shells have, in many instances, replaced welded pipe, castings and forgings in modern cost-cutting designs. Available in cylindrical, spherical, conical or tapered form in capacities from a quart to 70 gallons. Send a sketch for your ideas. Our engineers will be glad to help with such details as flanges, openings and fittings that you specify.

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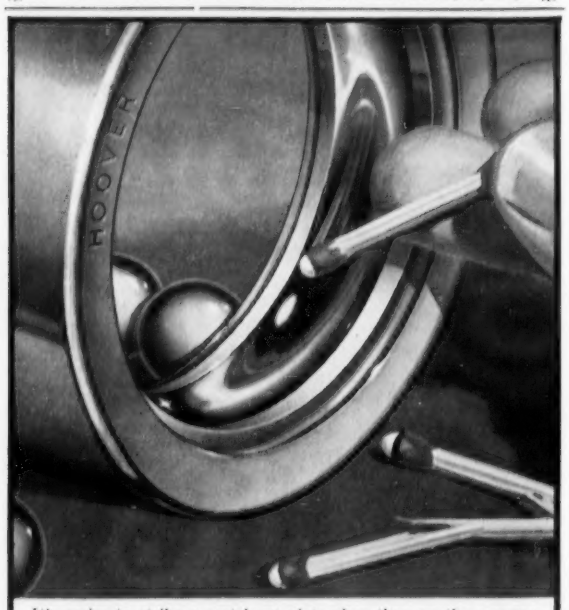
Manufacturer of Hackney Products
1450 S. 66th St., Milwaukee 14, Wis.
Branch offices in principal cities

Hackney MILWAUKEE

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-427 F7 on enclosed inquiry slip



It's easier to strike a match on plate glass than on the raceway of a quality ball bearing. The raceway's smoothness makes it virtually impossible. Even so, not all bearing raceways are equally smooth.

Hoover Honed Raceways are super smooth . . . superbly finished

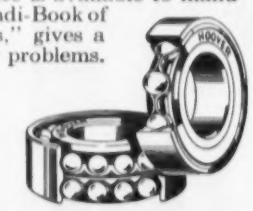
Bearing life—load capacity—quietness. These and other factors in ball bearing performance depend largely on the smoothness and finish of the bearing's raceway.

And that's where *Hoover Honed* Raceways pay off . . . in extra smoothness and finish. All makes of bearing raceways are ground. But Hoover Raceways are also *fully honed*. Hoover Honing, a patented process developed by Hoover, is the last word in precision finishing for raceways.

Coupled with *Hoover Honed* Raceways are matched sets of Hoover *Micro-Velvet* Lapped Balls, made to unusually high standards for smoothness and roundness. Precision throughout the working surfaces achieves superior ball bearing quality . . . assures long life and unexcelled performance.

Investigate Hoover's line of ball bearings in the light, medium and heavy series, available in a variety of types.

Engineering assistance is available to manufacturers. "Hoover Handi-Book of Anti-Friction Bearings," gives a concise view of bearing problems. Write for your copy.



hoover

BALL AND BEARING COMPANY, ANN ARBOR, MICHIGAN

Hoover Honed and *Micro-Velvet* are Hoover Trademarks.

For more details circle NED-428 F7 on enclosed inquiry slip

DRUM HEAD CUTTER leaves no saw-tooth edges

Heads can be cut out of drums by this drum head cutter which leaves no saw-tooth edges, but a safe turned-in edge. Manually operated tool incorporates a worm gear assembly in a sealed case. Adjusting track is cast of sparkproof hard bronze. Cost is $150. Made by **Michael A. Schinker Mfg. Co.,** 6516 S. Western Ave., Chicago 36, Ill.

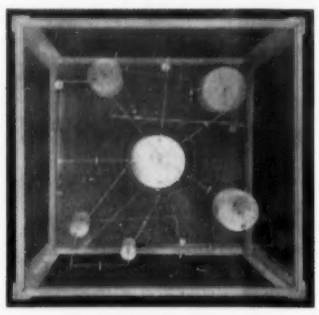
For more details circle NED-429 F7 on enclosed inquiry slip

DIRECT CURRENT SUPPLY delivers up to 3000 v from batteries

Miniature direct current high voltage supply is capable of delivering from 100 to 3000 v from a 1½ to 6-v battery source. Basic circuit of the transistorized unit consists of a free-running pulse generator feeding pulses into the primary of a step-up transformer. The secondary voltage is rectified with a stable diode. Provisions are made for external output voltage control. Unit has a seven or nine-pin miniature, octal or header type socket for plug-in use. Size is 1 in. diameter by 1¾-in. long. Made by **Westronics, Inc.,** Dept. 12, 3605 McCart St., Fort Worth, Tex.

For more details circle NED-430 F7 on enclosed inquiry slip

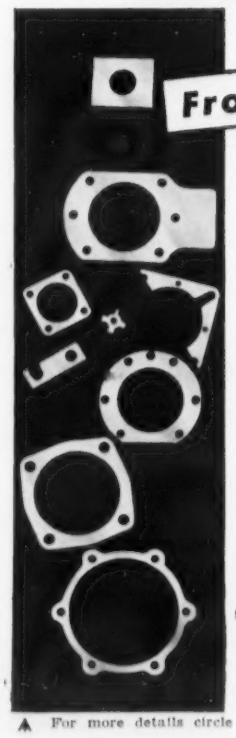
LAYOUT PLANNING CUBE for processing plant scale models



Planning problems that arise in the chemicals and processing industries can be simplified through use of layout planning cube for making three-dimensional layouts. Cube is available in kit form, made of aluminum and polyester plastic. It consists of screen mesh top and bottom, tanks of assorted sizes, tank clips, hanger rods, valves, nozzles, tees, pipes, pipe connections, pipe disks or plugs, small pumps and an assortment of tapes all to accurate scale. Tanks are made to specifications. Kit sells for $99.50, but the 2 x 2 x 2-ft planning cube and all kit components can be ordered separately. Made by **"Visual" Plant Layouts Inc.,** Dept. NE, Pennsylvania Ave. at River, Oakmont, Allegheny County, Pa.

For more details circle NED-431 F7 on enclosed inquiry slip

GASKETS · SHIMS WASHERS



From 1 to 1 Million

No matter what type, thickness, shape or quantity required, you can count on Chicago-Wilcox for uniformly accurate gaskets, shims, washers or special stampings.

With 50 years accumulation of dies, chances are we can furnish just what you need without a die charge—thus reducing costs substantially and assuring on-schedule delivery.

Gaskets, shims and washers can be supplied in metallic, non-metallic and plastics . . . teflon, nylon, etc. . . . and in quantities to meet your production requirements.

Write for catalog and submit your specifications for quotation.

CHICAGO-WILCOX MFG. CO.
7713 South Avalon,
Chicago 19, Illinois

For more details circle NED-432 F7 on enclosed inquiry slip

POR-ROK (POUR ROCK)

Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1937

For more details circle NED-433 F7 on enclosed inquiry slip

"Key" POINTS
- 1000 counts per minute
- large white figures on dark background
- maximum visibility
- hardened steel working parts throughout
- compact — 5½" long, 2-9/16" deep, 2⅛" high
- 100-120 volts, 60c. A.C.
- voltage fluctuations cannot affect accuracy of count
- attractive finish — Alaska Grey and Seal Brown

Send for Catalog 55

only a KEY MAN can RESET the

DURANT MODEL 6-Y-1-2-MF
Tumbler Lock Reset Electric
PRODUCTIMETER
for Panel Mounting

The entire assembly can be placed into the panel and securely mounted from the front. Counter is completely enclosed, fully protected against dust and moisture.

Representatives in Principal Cities
DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
22 Thurbers Ave. Providence 5, R. I.

PRODUCTIMETERS SINCE 1879 *Count Everything*

For more details circle NED-434 F7 on enclosed inquiry slip

You can't pour it...

*

but you can PUMP it!

Are heavy materials a problem in your plant? Graco Powerflo Pumps may provide the answer. These pumps mount on pails or drums... easily spray or extrude thick compounds quickly, get all the material from original container.

Rugged Graco Powerflo Pumps eliminate messy dispensing by paddle or scoop. Air powered, they speed up production...cut waste... save labor...help improve plant "housekeeping". Write today for the Powerflo catalog.

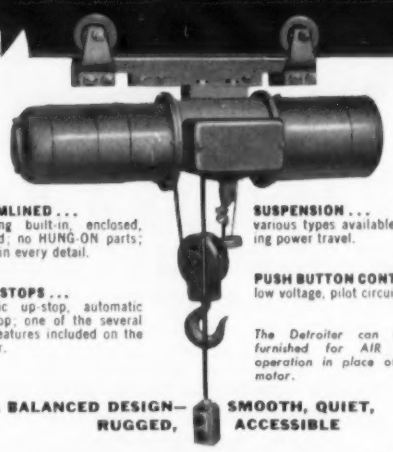
* *Unretouched photo shows five gallon pail of heavy, nearly solid sealing material. A Graco Powerflo Pump successfully pumped it out of original pail.*

WRITE FOR DETAILS on Graco Lab test to check pumpability of your materials. Graco lab report furnished without obligation.

GRACO
GRAY COMPANY, INC.
Engineers and Manufacturers
67 Graco Square • Minneapolis 13, Minnesota
Regional Offices: New York (Long Island City), Philadelphia, Detroit, Atlanta, Houston, Chicago, San Francisco.

For more details circle NED-435 F7 on enclosed inquiry slip

ALL-NEW!
50TH ANNIVERSARY
"DETROITER" ELECTRIC HOIST



STREAMLINED ... everything built-in, enclosed, protected; no HUNG-ON parts; modern in every detail.

SUSPENSION ... various types available, including power travel.

PUSH BUTTON CONTROL ... low voltage, pilot circuit.

HOOK STOPS ... automatic up-stop, automatic down-stop; one of the several safety features included on the Detroiter.

The Detroiter can also be furnished for AIR MOTOR operation in place of electric motor.

A BALANCED DESIGN—RUGGED, SMOOTH, QUIET, ACCESSIBLE

Inquire about the "Detroiter"—all new Electric Hoist; get further information, phone or write today. Ask for Bulletin 850

DETROIT HOIST and MACHINE CO.
8231 MORROW STREET • DETROIT 11, MICHIGAN

For more details circle NED-436 F7 on enclosed inquiry slip

Process pipeline system at Johns-Manville Corporation's "Synthetic Silicates" Plant, Lompoc, California.

PROBLEM: To select the best pipe and fittings to withstand corrosive action of sulphuric acid, occasionally mixed into low ph slurry lines. Process piping system is used in manufacture of Micro-Cel® . . . where corrosion would contaminate product quality, result in costly leaks and pipe replacements, as well as impede flow rate and increase pumping horsepower requirements.

SOLUTION: Consideration of materials costs, ease of installation, labor costs and length of service life, made choice of stainless steel system obvious. Speedline Fittings and economical light wall stainless pipe met *every* job requirement . . . were specified for *entire* plant process piping system!

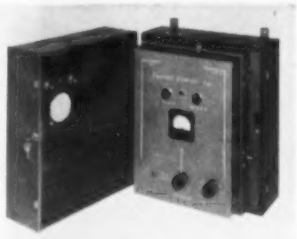
Speedline Fittings are made in a variety of analyses especially for use with Schedules 5 and 10 stainless pipe. An illustrated brochure describes how Speedline Fittings with exclusive "tangential feature" simplify pipeline assembly . . . provide bonus advantages down the line for your process operations.

Write for your copy of The Speedline Catalog without obligation . . . or contact the Speedline distributor nearest you.

Speedline®
7028
®REG. T.M.
STAINLESS STEEL FITTINGS
THE NEWEST THING IN PIPELINE ECONOMY
SPEEDLINE DISTRIBUTORS ARE LOCATED IN PRINCIPAL CITIES FROM COAST TO COAST

Manufactured by HORACE T. POTTS COMPANY
532 E. Erie Avenue • Philadelphia 34, Penna.
For more details circle NED-437 F7 on enclosed inquiry slip

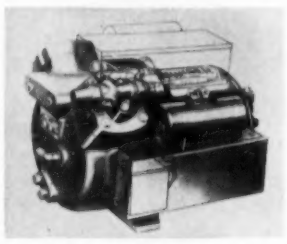
MACHINE SAFETY CONTROL
entry in danger area stops machine



Capacitance field set up around a danger area senses a person or his hand in this area, sending an electrical signal to the machine braking mechanism. Size and shape of the safety field are determined by the positioning, size and shape of the sensing element and control adjustments. Machine will not run with a person in the field unless certain adjustments are made. Failure of any electronic component causes the machine to stop. Device is installed and set up by plant personnel. Made by **Security Controls, Inc.,** 256 Franklin St., Buffalo 2, N. Y.

For more details circle NED-438 F7 on enclosed inquiry slip

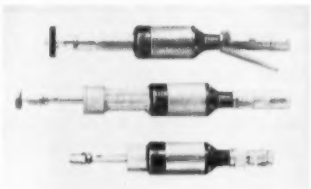
REFRIGERATION CONDENSERS
1/4, 1/3, 1/2 and 1-hp models



Optional top or side control panel on line of ¼, ⅓, ½ and 1-hp semi-hermetic refrigeration condensing units provides easy access and flexibility in design of refrigerating equipment. They are air, water or combination air and water cooled and have splash lubrication. Spring mounting minimizes compressor vibrations. Motor is cooled by suction gas. Made by **Brunner Mfg. Co.,** 29 Fisher St., Utica, N. Y.

For more details circle NED-439 F7 on enclosed inquiry slip

AIR GRINDERS
three small-wheel models in line



Basic air motor used in the M 1170 series of small-wheel air grinders provides a line that includes three speeds, five spindle types and three handles for a total of 45 basic models with 20 different arbors and collets. Featured are quiet operation, balanced centrifugal governor, built-in air strainer, pregreased and shielded ball bearings and a solid, one-piece spindle. Grinders have speeds of 17,000, 13,000 and 8000 rpm, lengths from 11 5/16 to 16½ in., ⅜-in. hose connections, and sleeve, twist or snap throttles. Maximum elastic and vitreous wheel capacities are 2 x ½-in. and 1 x ½-in. respectively, at top speed. Shown (top to bottom) are small end, short and long types of grinders. Made by **Rotor Tool Co.,** 26301 Lakeland Blvd., Cleveland 32, O.

For more details circle NED-440 F7 on enclosed inquiry slip

You can see the savings!...
WITH EQUIPTO IRON-GRIP STEEL SHELVING

One glance at a row of Equipto Steel Shelving with its fully labeled shelves, drawers, bins, and compartments, all arranged in perfect working sequence SPELLS SAVINGS IN TIME AND EFFORT!!!

Exclusive steel stud permits 60% faster shelf adjustment on 1½" centers without nuts, bolts, or tools. Any shelving unit may be moved without disturbing balance of assembly. You can vary arrangement of drawers, dividers, or shelves to suit changing storage needs.

Write today for labor-saving free booklet, HOW TO SOLVE YOUR STORAGE PROBLEMS."

Equipto
690 Prairie Avenue
Aurora, Illinois

Rush me free booklet "HOW TO SOLVE YOUR STORAGE PROBLEMS"
NAME
FIRM
ADDRESS
CITY ZONE STATE

For more details circle NED-441 F7 on enclosed inquiry slip

if Your Product requires . . .
TELESCOPING
METAL TUBE
ASSEMBLIES

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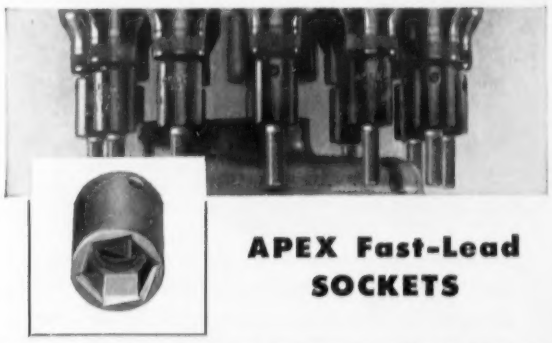
antenna specialists co.
FOR FREE ANALYSIS AND RECOMMENDATIONS
America's Only Complete Line Of Vehicular Communication Antennas
CONTRACT MFGS. FOR 1001 APPLICATIONS
antenna specialists co.
12435 Euclid Ave. • Cleveland, Ohio
Phone SWestbriar 1-7878

For more details circle NED-442 F7 on enclosed inquiry slip

THIS IS MODERN FASTENING!



APEX Fast-Lead SOCKETS

Apex Fast-Lead Sockets are specifically designed for modern, split-second assembly work, using one or more power tools. The specially designed broached opening on an Apex fast-lead socket provides complete engagement of socket and nut or bolt almost instantly upon contact. To save time and money on your production assembly work, write, on your company letterhead please, for our new Catalog 129.

Ask APEX for the answer to your fastening problem!

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle NED-443 F7 on enclosed inquiry slip

DON'T LET YOUR STRIPPING PROBLEMS GET YOU DOWN!

EPOXYSTRIP
Is a LIFE SAVER—TIME SAVER—MONEY SAVER

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

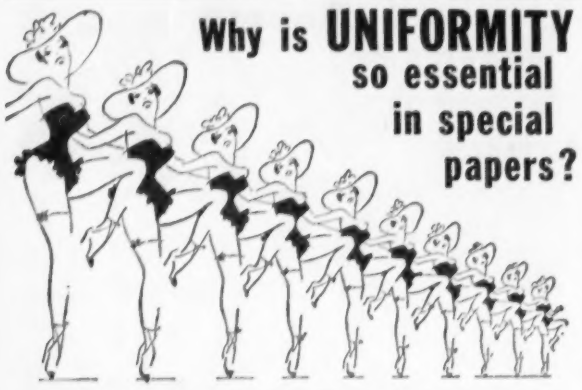
SEND FOR FREE BROCHURE

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3352 WEST 137th STREET CLEVELAND 11, OHIO

For more details circle NED-444 F7 on enclosed inquiry slip



Why is UNIFORMITY so essential in special papers?

FAILURE of special papers to conform to exact specifications can frequently lead to product damage or ineffectiveness . . . cause costly, time-consuming adjustments in production procedures. That's why it pays to rely on Mosinee for special papers. For nearly 50 years Mosinee has been custom tailoring sulphate papers to meet packaging, processing and fabricating requirements. And with its modern production facilities, Mosinee can deliver these papers with dependable uniformity — within runs and from order to order.

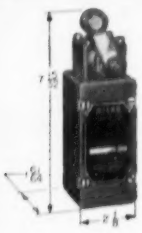
Send for information file describing Mosinee's extensive research facilities, years of experience and technical consultant service.

Mosinee

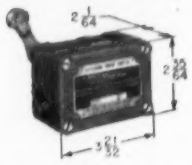
PAPER MILLS COMPANY • Mosinee, Wisconsin

For more details circle NED-445 F7 on enclosed inquiry slip

MICRO SWITCH . . . FIRST IN PRECISION SWITCHING



Type ML-E1. Also available with straight plunger and roller-plunger actuators



Type EX. Also with straight plunger actuator

These switches are ideal electrical controls in hazardous atmospheres

MICRO SWITCH explosion-proof switches are widely used in such hazardous atmospheres as those found in chemical plants, refineries, flour mills, coal mines and metal processing plants. They are Underwriters' Listed as suitable for use in hazardous locations. These switches make excellent limit, safety and interlock switches to make equipment more automatic and more productive.

(*Send for Catalog 83*)

Do you get MICRO Tips?

Let us put you on our mailing list. Read of the thousand and one ways plant operators use MICRO SWITCH Precision Switches.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

For more details circle NED-446 F7 on enclosed inquiry slip

NEW... SPRAY BELT DRESSING

is easy to apply—no waste!

More for your money! The convenient NEW aerosol CLING-SURFACE dispenser makes it EASY to apply to multiple V-Belt drives; to leather, rubber covered and hair belts. Here's the convenient, easy, on-the-job way to apply the BEST Belt Dressing made. There's no waste.

33% MORE BELT DRESSING

gives up to 5 times the "mileage".

Guarantees slip-free operation for all belts. Lasts up to 5 times longer than other spray dressings. Keeps belts pliable, moisture proof. A very little goes a long way. CLING-SURFACE is the ECONOMICAL Belt Dressing.

Write for our generous trial offer

CLING-SURFACE CO.

1045 NIAGARA ST. • BUFFALO, NEW YORK

For more details circle NED-447 F7 on enclosed inquiry slip

TOOLROOM SHAPER for surface or profile work

Precision surface or profile work is possible with this Jemco H-20 universal toolroom shaper. Having a working range of 8 x 11⅞ in., machine holds tolerances within 0.00025-in. Switch selects speeds of 60 or 120 strokes per minute. Standard equipment includes a dividing head and tail stock, swivel vise, a 12¼ x 12¼-in. table with locking jaws, two tool holding fixtures for forward and draw cutting, and a work table that can be angled to any position. This swivel table can be locked in three main working positions, and has integral clamping devices which speed production. Pole-changing flange motor permits shaping to be done with either a draw or conventional cut. Made by **Jersey Mfg. Co.**, 444 Livingston St., Elizabeth 1, N. J.

For more details circle NED-448 F7 on enclosed inquiry slip

SMOKELESS INCINERATOR disposes of liquid combustibles

Smokeless disposal of combustible liquid waste materials, in liquid or slurry form, including paint sludges, thinners, oils and solvents, is possible in the model SF-1 industrial incinerator. Full combustion is provided at temperatures in excess of 3000° F without ash. Up-fired retort of refractory lined heavy gage steel provides explosion relief characteristics through the top. Following initial start, operation is continuous and automatic. Burner uses an air-jet principle requiring a supply of compressed air for atomization of liquid waste fuel and for combustion. Controls include automatic electronic shut-down. Made by **Prenco Products, Inc.**, 511 E. Ten Mile Rd., Hazel Park, Mich.

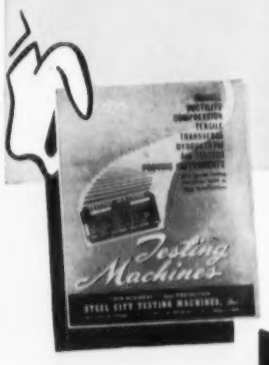
For more details circle NED-449 F7 on enclosed inquiry slip

Pump Selection Data

Barnes Mfg. Co.—Handy pump selector chart gives heads, capacity and other information on complete line of pumps for industrial and commercial applications. Portable and stationary models are available with gasoline, electric, diesel, belt or direct drives with capacities to 90,000 gph at heads to 375 ft.

For more details circle NED-450 F7 on enclosed inquiry slip

STEEL CITY TESTERS ARE SUITED TO YOUR INDIVIDUAL NEEDS . . .



Yours for the asking...

This brochure illustrates and describes many types of machines for testing physical properties of metals. It belongs in your file.

Write to:

Steel City Testing Machines Inc

8819 Lyndon Ave., Detroit 38, Mich.

Sales offices in *all* metalworking areas.

For more details circle NED-451 F7 on enclosed inquiry slip

GUARANTEED TO SAVE FASTENING TIME & COSTS

Model No. 55 200-240 V.—60 C.—A.C.

MODEL 55—(pictured above) is completely portable. Welds combined thickness to ⅛". Features electronic timing control with solenoid contactor. Pre-timing assures uniform welds. Wgt. 26 lbs. Air operation optional. Stand or Roto-Balance suspension holder available.

Contact your local distributor or write for further information

AMPOWER PRODUCTS CO.

MANUFACTURERS OF THE ORIGINAL AND ONLY AMPOWER WELDERS

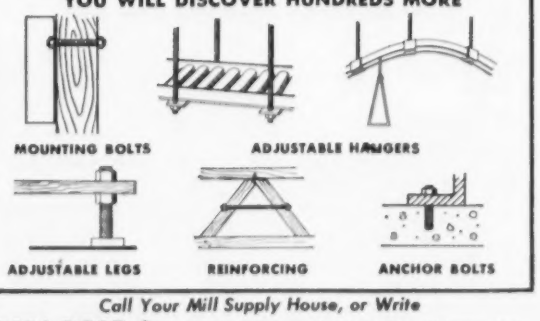
P. O. Box 464 Oak Lawn, Ill.

For more details circle NED-452 F7 on enclosed inquiry slip

13 Diameters
Two Thread Sizes
Two Std. Lengths

Just cut Redi-Bolt to the length required *on the job*—no threading necessary. Bend to special shapes, too. No need to waste valuable time running down special bolts. The time you save helps squeeze more jobs into a day . . . makes man-hours more productive. Redi-Bolt is supplied in 13 precision-threaded diameters, 3/16" to 1½", and in standard lengths of 24" and 36". Other lengths on special order. All sizes are available in *Standard National Coarse* and *SAE* or *National Fine* threads. Galvanized and rust-resistant finishes. Order a supply of various sizes today.

TYPICAL JOBS WHERE REDI-BOLT SAVES TIME— YOU WILL DISCOVER HUNDREDS MORE



Call Your Mill Supply House, or Write

REDI-BOLT, Inc. 5312 Indianapolis Blvd., East Chicago, Ind.

For more details circle NED-453 F7 on enclosed inquiry slip

"TOPS" for CORROSIVE SERVICE

TYGON GASKETING

Tygon Plastic Gasketing is highly resistant to acids and alkalis. It is tough, resilient and non-aging; resists wear and abrasion. Cut your own from sheets, tubing or solid cord . . . or we will provide molded gaskets, grommets or seals to your specifications.

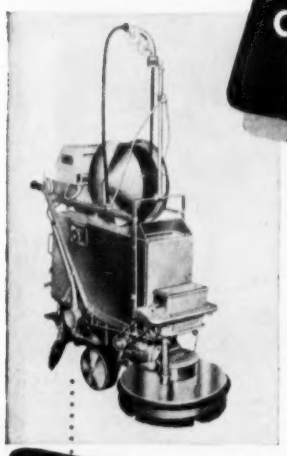
WRITE FOR BULLETIN G-520

Plastics and Synthetics Division
U. S. STONEWARE
AKRON 9, OHIO

214-E

For more details circle NED-454 F7 on enclosed inquiry slip

Self-Propelled SCRUBBER-VAC.... .... CUTS CLEANING TIME 2/3!



For **Small-Area Factories (2,000 to 15,000 sq. ft. of floor)**

Finnell's 418P Electric Combination Scrubber-Vac, with its 18" brush spread, cleans floors in about *one-third the time* required with a conventional 18" machine and separate vac. Also can be used for polishing, etc. Available on lease or purchase plan. (Powder Dispenser is an accessory.)

Applies cleanser, scrubs, and picks up in ONE operation!

FIND OUT WHAT YOU WOULD SAVE... with a *Finnell Scrubber-Vac. Finnell* makes a full range of sizes, and *gasoline* or *propane* as well as *electric* models. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5506 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.
Originators of Power Scrubbing and Polishing Machines
FINNELL
BRANCHES IN ALL PRINCIPAL CITIES

For more details circle NED-455 F7 on enclosed inquiry slip

ANOTHER *PANNIER* MASTER MARKER!

Super Ink Print-All clearly marks all conveyed materials traveling horizontally or vertically. It prints top or bottom surfaces as material moves under or over the printer.

Write for complete data.

PANNIER'S ALL-NEW SUPER INK PRINT-ALL

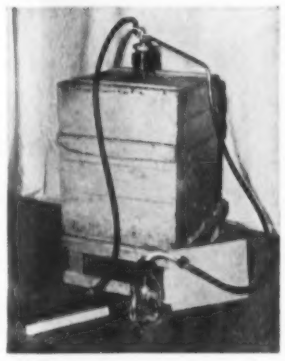
Internally fed unit.
Use inks from semi-paste to liquid, including light colored, heavy pigmented inks.
Continuous or repeat printing.
No stopping to add ink.
Print on 1" centers with multiple staggered units.

BIRTHMARKED MATERIALS

MARKING DEVICES
THE PANNIER CORPORATION
301 Pannier Building • FAirfax 1-5185 • Pittsburgh 12, Pa.
Offices: Los Angeles • Chicago • Cleveland • Philadelphia

For more details circle NED-456 F7 on enclosed inquiry slip

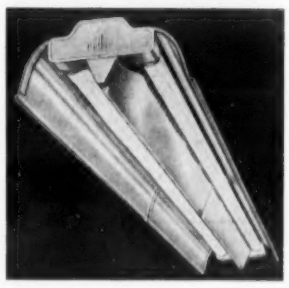
CARBOY PUMP dispenses without spilling



Series of small containers can be filled from a carboy without spilling or splashing by this pump. Liquid flow is started from elevated carboy by pressing an air pump to create a natural syphon. Containers are filled by opening and closing the petcock. The 56-in. long overflow tube can be polyethylene, lead, hard rubber or aluminum. Offered by **General Scientific Equipment Co.,** 7518 Limekiln Pike, Philadelphia 50, Pa.

For more details circle NED-457 F7 on enclosed inquiry slip

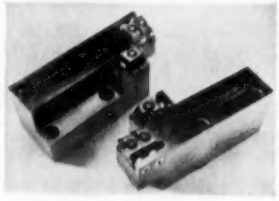
FLUORESCENT LIGHT FIXTURE uses new high-output lamps



This 8-ft IP 2501-08 fluorescent light fixture is designed to harness the 26,000 lumen output of two G-E Power-Groove fluorescent lamps, while providing comfortable seeing for industrial users. Unit features an Alzak aluminum reflector with 35-degree crosswise shielding. This limits brightness within the shielded zone to less than 1/8 that of porcelain enamel fixtures. High degree of crosswise seeing comfort is thus assured. A 25 per cent upward light component also adds to comfort feature. Fixture is suited to mounting heights from 20 to 35 ft in general industrial use. Made by **Miller Co.,** Dept. PR-4, Meriden, Conn.

For more details circle NED-458 F7 on enclosed inquiry slip

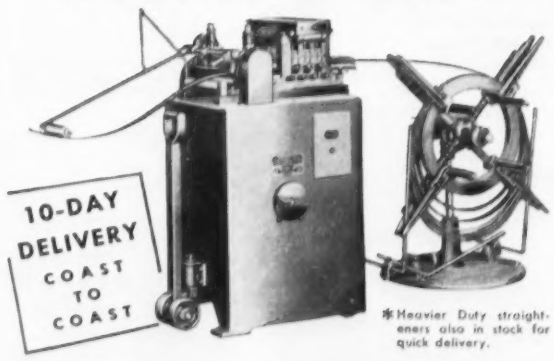
ADJUSTABLE TOOL BLOCKS use throw-away metal inserts



Useful for rough and finish turning and facing of high production parts, these micro - adjustable tool blocks use throw-away Wessonmetal inserts. Adjustable feature permits rapid setup, as each division on the head of the microadjustment screw is equal to a 0.001-in. advance or retraction of the insert. Once set, the tool blocks require no further adjustment. When dull, inserts are indexed to a fresh cutting edge, and discarded when all eight edges are dull. Made by **Wesson Co.,** 1224 Woodward Heights Blvd., Ferndale 20, Mich.

For more details circle NED-459 F7 on enclosed inquiry slip

STRAIGHTEN COIL STOCK from 1/2" to 8" wide... from .018" to .065" thick... on a LITTELL "308"*



10-DAY DELIVERY COAST TO COAST

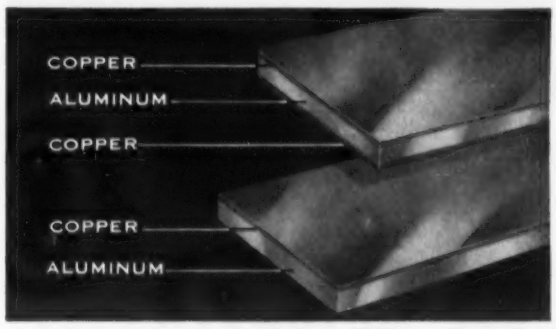
*Heavier Duty straighteners also in stock for quick delivery.

Littell "308" Variable Speed Straighteners flatten coil stock... synchronize feeding of stock with speeds of automatic presses . . . simplify hand feeding. The "308" has brought new speed, efficiency and economy into stamping, blanking and shearing operations from coast to coast. Get full details on these portable straighteners.

Write for Catalog Section 3H

F. J. LITTELL MACHINE CO.
Speed with Safety
ROLL FEEDS • COIL CRADLES
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland
4169 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.

For more details circle NED-460 F7 on enclosed inquiry slip



Low cost General Plate
ALCUPLATE®
useful for wide range of products

General Plate ALCUPLATE is a clad metal made by bonding solid copper on one or both sides of aluminum.

G. P. ALCUPLATE reduces overall weight, with cost savings of up to 30% over solid copper.

G. P. ALCUPLATE is available in coils or cut lengths, in thicknesses up to 1/16" and widths up to 14". Thickness ratios can be supplied up to 10-90 in single clad, or 10-80-10 in double clad.

G. P. ALCUPLATE is an excellent thermal and electrical conductor. It is easily formed, deep drawn, or spun, and it offers ideal surfaces for fine finishing. Among the many products made of G. P. ALCUPLATE are heat transfer units, component cases, bus bars, electronic chassis and electrical terminals.

Write for Bulletin 702E.

You can profit by using G.P. clad metals.

METALS & CONTROLS CORPORATION
General Plate Division
1806 Forest Street, Attleboro, Mass.

For more details circle NED-461 F7 on enclosed inquiry slip

CROWN E-Z LIFTS
Speed Loading . . . Unloading
Die Handling . . . Stacking . . .
Lifting Jobs of All Kinds

PRICED FROM JUST $195.00

MODEL BL 1250-56—

1250-lb. capacity*, battery operated hydraulic lift with dependable 12-volt electrical system including built-in battery charger. Highly maneuverable with extremely short turning radius—easily handled by one man. Automatic overload protection . . . dual foot brakes . . . maximum lift 56" above floor. Remote control available as optional feature. Price, including battery, $580.00, F.O.B. New Bremen, Ohio.

Low Cost . . . Easily Operated

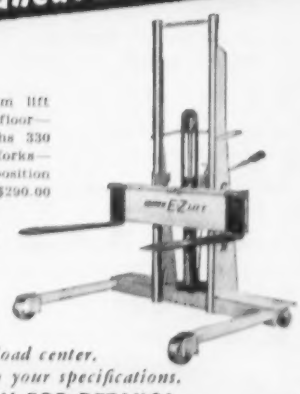
MODEL LT-1000—

1,000-lb. capacity*. Extra strong tubular steel construction, safety plate platform, foot-operated brake. Maximum lift 54" above floor—lowers to 5¼" above floor—straddle capacity 16¼". Weighs only 270 pounds. Price $240.00 F.O.B. New Bremen, Ohio.

Highly Maneuverable

MODEL FL-1000—

1,000-lb. capacity*. Maximum lift 54" above floor—lowers to floor—straddle capacity 38". Weighs 330 pounds. 4" x 24" sliding forks—easily adjustable to any position from 11" to 34". Price $290.00 F.O.B. New Bremen, Ohio. Optional "Snap-On Safety Platform" for quick conversion to lift table.



**Capacities rated on 20" load center. Special lifts engineered to your specifications.*

WRITE TODAY FOR DETAILS!
HYDRAULICS DIVISION
CROWN CONTROLS Co., Inc. NEW BREMEN, OHIO

For more details circle NED-462 F7 on enclosed inquiry slip

DRILL SMALL HOLES! AUTOMATICALLY!

NEW MIDG-A-MATIC Self-Feed Drill. 1" diameter. 10-3/16" long. For *low cost* drilling. Use singly or in multiples.

WRITE for full technical details. See your Aro Distributor.

THE ARO EQUIPMENT CORPORATION
GENERAL OFFICES—BRYAN, OHIO
Plants at Bryan and Cleveland, Ohio
Aro of California, 3141 S. Grand Ave., Los Angeles 7, Calif. • Aro Equipment of Canada, Ltd., Toronto 15, Ontario
Offices in All Principal Cities

ARO ® AIR TOOLS
Also . . . AIR HOISTS . . . LUBRICATING EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS . . .

For more details circle NED-463 F7 on enclosed inquiry slip

AMERICAN announces the SCREW-KING

The American Screw-King is a compact speed-reduction unit with a trough-end adapter on its low-speed side that bolts directly to a screw conveyor trough. Its integral drive shaft support bearings eliminate special couplings, drive-end bearings or supports.

Look at these other job-designed features of the American Screw-King!

- Adaptable—to 6", 9" and 12" screw conveyors, and may be inclined or declined as much as 20° from the horizontal.
- Available—in sizes from ½ to 10 hp. and in speeds from 15 to 290 rpm.
- Driven—from a short-center fixed or adjustable-speed V-belt drive and a motor of any make, type or age.
- Compact—fitting easily where space is a problem.
- Durable and rugged—it has more than adequate capacity to absorb the screw's full thrust load.
- Leak-proof—its sealing system keeps lubricant in, dust and dirt out.
- Efficient—because of its modern flame hardened, helical, alloy-steel gearing, and its bearing arrangement.
- Stocked—by local distributors in key industrial areas.

Specify American Screw-King as your screw conveyor drive.

The American Pulley Company
POWER-TRANSMISSION DIVISION
4294 Wissahickon Avenue • Philadelphia 29, Pa.

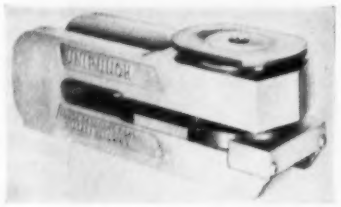
For more details circle NED-464 F7 on enclosed inquiry slip

VACUUM HANDLING CUPS pick up variety of products

These product handling vacuum cups are composed of pliable, molded neoprene vulcanized to an aluminum or cast iron plate. Attached to operating arms with appropriate vacuum lines installed, cups can be used to pick up a wide variety of products. Ribbed sections in center of cup assure good holding, even on irregular surfaces, yet prevent tendency to collapse. Typical uses are turn-over of work, transfer of stampings and stacking of products ranging from containers to plate glass. Offered in two styles and 3, 4, 5 and 6½-in. sizes by **Stilson Tool Co.**, Dept. N, 30233 Groesbeck Highway, Roseville, Mich.

For more details circle NED-465 F7 on enclosed inquiry slip

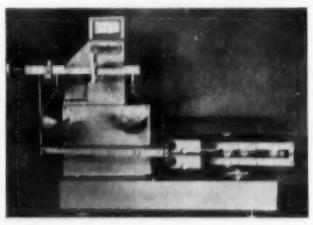
PERFORATING UNIT makes 3½-in. holes in ⅛-in. steel



Up to 3½-in. diameter round and shaped holes can be punched in ⅛-in. mild steel by the Unipunch B-5 perforating unit. The 5-in. wide unit is made of an aluminum alloy casting with a steel insert guide hole. It has the standard 5½-in. shut height and 2 19/32-in. die height, permitting use with units of smaller capacity. Punches and dies are held in alignment by holders which also maintain concentricity between punches, dies and pilot pins. Perforating units are available in 8, 12 and 16-in. throat depths. Made by **Punch Products Corp.**, 3808 Highland Ave., Niagara Falls, N. Y.

For more details circle NED-466 F7 on enclosed inquiry slip

COUNTING SCALE counts quantities of parts



Exceptionally fast model C-201 mechanical counting scale is designed for industrial use in precision counting of quantities of parts that are uniform in weight. Indicator linkage system consists of a spring-loaded, tape driven indicator that is direct-connected to scale lever. The new flush target indicator insures fast, accurate reading to tie in with increased mechanical speed of the scale. It eliminates the possibility of parallax reading. Made by **Pennsylvania Scale Co.**, Dept. NE-3, Bareville, Pa.

For more details circle NED-467 F7 on enclosed inquiry slip

NOW . . . high efficiency
Filters, Regulators, and Lubricators for Air Supply to Pneumatic Equipment

with the NEW WATTS high efficiency LINE

WATTS high efficiency FILTER

New TORNADO ACTION . . . sets up centrifugal force which spirals dirt and moisture downward into "quiet zone."

New ASPIRATOR ACTION . . . gives instant compensation for fluctuating pressure demands.

WATTS high efficiency REGULATOR

WATTS high efficiency LUBRICATOR

New BY-PASS PICKUP . . . makes possible high velocity venturi section which vaporizes virtually 100% of the metered oil.

Complete range of Sizes: ¼", ⅜", ½"

BOWLS CAN BE REMOVED IN 30 SECONDS

WATTS REGULATOR COMPANY
SINCE 1875
20 EMBANKMENT ROAD LAWRENCE, MASSACHUSETTS

Write for complete information

For more details circle NED-468 F7 on enclosed inquiry slip

REED the Better CHAIN VISE

Low profile of improved design creates less interference with work area.

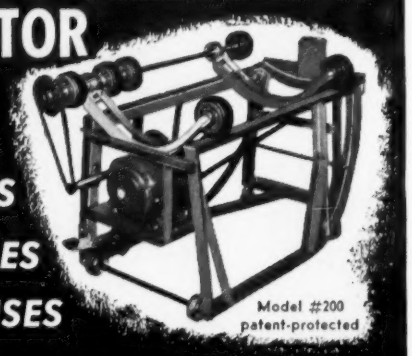
Modern vise has handle positioned so that it swings above bench level for tightening. Chain drops into position and locks automatically on all pipe sizes. Hardened, replaceable vise jaws have three faces for triple life. Vise mounts solidly on bench, 50% closer to edge with full 6 inches or more bearing on edge. Reed exclusive roller pulley provides maximum chain contact. This really solid vise is easier, faster and more convenient . . . does away with fumbling and skinned knuckles. Reed presents performance advantages never before incorporated in any chain vise design.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.

For more details circle NED-469 F7 on enclosed inquiry slip

inexpensive MORSE portable ROTATOR



• MIXES
• BLENDS
• TUMBLES
• CLEANSES

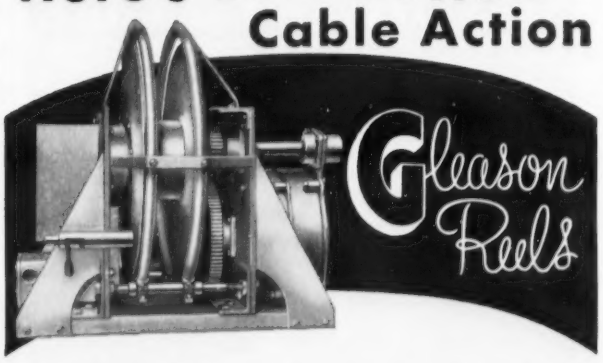
Model #200 patent-protected

In 30 to 55 gal. drums, 1 to 5 gal. cans at rotating speeds 10 to 40 rpm. The four drive-wheels have Neoprene treads, resistant to paint and oil. The idler wheels have Torrington Needle Bearings for smoother operation. Easily loaded—frame has retractable casters. Various speeds are secured through chain sprocket reduction. Morse Model #200 Rotator weighs 115 lb. Write for Bulletin 348 and free folder showing complete Morse line or Drum and Barrel Handling Equipment.

MORSE MANUFACTURING CO., INC.
756 West Manlius St. East Syracuse, N. Y.

For more details circle NED-470 F7 on enclosed inquiry slip

Here's SMOOTHER Cable Action

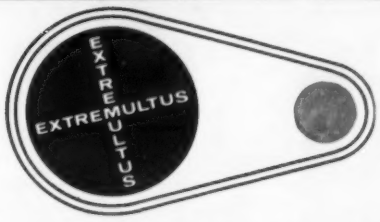


This GLEASON SM Series Geared Reel is top standard for the Steel Industry because it's built for rugged *non-stop* service to equipment in motion. Designed for two-way payout of electric cables, 125 Amp. 600 volt, continuous contact with trouble-free current collector and brush rigging. It operates smooth and easy on ball bearings, with adjustable-torque non-revolving springs. Handles two to four-conductor cables in capacities up to 140-feet Lift or 130-feet Stretch.

Write for Catalog or for Gleason Reel suggestions to fit your needs.

Gleason Reel Corp
738 N. Plankinton Ave., Milwaukee 3, Wis.
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

For more details circle NED-471 F7 on enclosed inquiry slip



NO DRIVE TOO TOUGH!

In its first year on the U. S. market,

EXTREMULTUS BELTING,

a laminate of leather and plastic, is out-performing and replacing existing V-belts, chains and flat belts everywhere!

- Speeds up to 10,000 feet per minute!
- Ratios as high as 20:1, with arcs of contact as low as 90°!
- Unexcelled elasticity — soaks up shock!
- From 1/10 to 6000 HP!
- Runs on standard pulleys!
- Greatly reduced bearing loads!
- Freedom from stretch eliminates take-up!
- Widths a fraction of belts replaced!

Immediate delivery from stock on standard sizes

Name your drive problem — let EXTREMULTUS solve it! Write *today!*

EXTREMULTUS, INC.
405 Lexington Ave., New York 17, N. Y.

For more details circle NED-472 F7 on enclosed inquiry slip

CUT PRODUCTION COSTS!

MARK NAME PLATES 5 TIMES FASTER

MODEL EMT-1
ELECTRIC TAG TYPEWRITER

A touch of the finger delivers up to 2 tons pressure for deep, legible impressions in metal or plastic tags.

—WITH—
Automark
ELECTRIC TAG MARKING MACHINES

MODEL SRST-2
HI-SPEED
TAG MARKING MACHINE

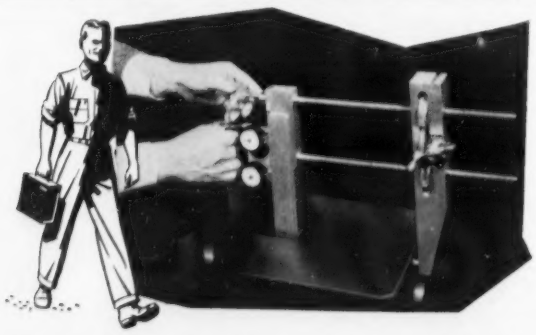
Automatically marks BOTH constant and serial numbers at any desired speed up to 8,000 tags per hour!

MANUFACTURERS' AGENTS
Some Territories Still Available

Send Now for Bulletin

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dep't. QD ST. LOUIS 10, MO.

For more details circle NED-473 F7 on enclosed inquiry slip



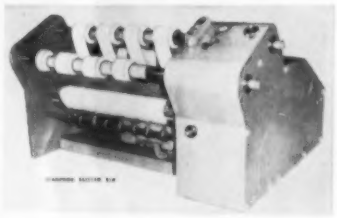
HARDNESS TESTER
compact and exact!

Inspectors simply carry this small, lightweight hardness tester to the work — instead of transporting heavy work pieces to a testing bench. Yet this Riehle portable hardness tester gives Rockwell readings as precise as any bench-mounted tester. Without obligation, let a Riehle representative prove this in your plant on certified calibrated specimens. Then try out on your own materials. Write Dept. NED-657.

Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

For more details circle NED-474 F7 on enclosed inquiry slip

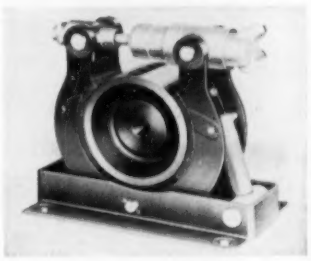
ROLL SLITTER maintains 1000 fpm web speed



Design of model 310 paper, film and foil slitter eliminates uneven tension on finished rolls and core crushing, as well as the need for edge trimming. Slitter will maintain a constant web speed up to 1000 fpm, with 3000 fpm optional. Convertibility from score or shear cut to razor blade slitting is instantaneous. Machine is complete with automatic web guide and constant tension controls. Waist-high windup arbors provide easy threading and unloading. Made by **Stanford Engineering Co.**, Box 38-A, Salem, Ill.

For more details circle NED-475 F7 on enclosed inquiry slip

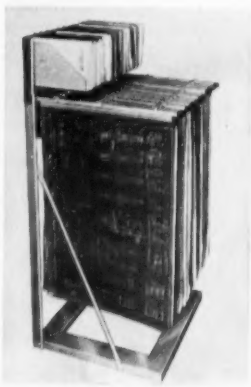
HYDRAULIC BRAKE for small cranes and machines



This 6 x 3-in. hydraulic brake is designed for use on small industrial cranes and machines. It can be used for accurate load spotting control, tension control on mill roll stands and emergency stopping, holding and service braking. Hydraulic actuating cylinder is operated through manual control cylinder equipped with foot pedal. Brake arms are forced apart by compression spring inside actuating cylinder when hydraulic pressure is released. Antidrag device is provided. Extra-thick, nonscoring molded lining blocks are reinforced with wire backing and bolt holes are deeply countersunk. One-point brake adjustment is easily performed. Made by **Wagner Electric Corp.**, 6382 Plymouth Ave., St. Louis 14, Mo.

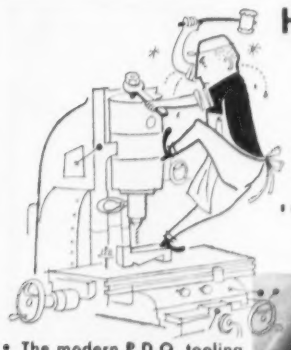
For more details circle NED-476 F7 on enclosed inquiry slip

VERTICAL PRINT FILE has friction type binders

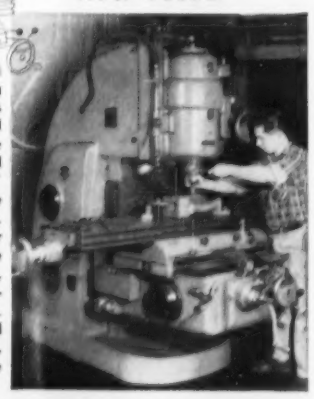


Holes and other mutilations in prints of various types are eliminated when they are held in the Plan Hold vertical file by aluminum friction type binders. Rolling stand unit has a data file shelf (see photo) which holds specification books or small bound prints. Made by **Plan Hold Corp.**, Dept. F, 5204 Chakemco St., South Gate, Calif.

For more details circle NED-477 F7 on enclosed inquiry slip



HOW MODERN IS YOUR METHOD?
...THIS
... or THIS



• The modern P.D.Q. tooling method completely eliminates the time lost in changing old fashioned type tools. No more "sweating out" loosening and tightening the draw bolt. A 60° turn of the lock nut and you're ready for another tool. P.D.Q. tool changes are only a matter of *seconds* . . . and tools are available in very small, small, medium and large series depending on the application. Write for literature covering all the advantages of modern, cost cutting P.D.Q. (Portage Double Quick) tooling.

REPRESENTATIVES IN PRINCIPAL CITIES

PORTAGE Double-Quick TOOL CO.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-478 F7 on enclosed inquiry slip

to answer your dust problems

new free handbook

details on how you can cut costs, up employee morale with flexible, economical unitized *dust collectors*

Here's a 28-page, fully illustrated manual of up-to-date dust control information. You'll find it loaded with useful facts, figures, charts, applications and other valuable information. Contains details on all the portable, self-contained Torit Dust Collectors—their use, flexibility and economy. Includes complete specifications on the broad range of Torit types and models.

Your copy FREE by writing:

TORIT MANUFACTURING COMPANY
311 Walnut Street
St. Paul 2, Minnesota, Dept. 203

For more details circle NED-479 F7 on enclosed inquiry slip

Units can be purchased in flush-plate or box-type mountings and are adaptable for special panel mountings.

an oil, water, dust-tight CONTROL SWITCH made by machine tool builders to machine tool specifications

THE NAMCO GOLD N SEALTIGHT RING

- Heavy duty silver alloy contact points provide maximum electrical capacity and long life.
- Heavy duty terminal screws have 3/8" thread contact to prevent stripping during installation and permanently secure wires for continuous, trouble-free service.
- Single or double-pole contact block assemblies — can be used interchangeably with several types of GOLD-N-RING push button and selector operator heads.
- Rated for 600 volts — AC or DC. Meets all Joint Industry Committee and National Machine Tool Builder's Association requirements.
- Protected against oil and water seepage in operator head by Sealtight oil-resistant rubber diaphragm.
- Easily replaces existing switches.

For specifications send for Catalog ECS-56

Electrical Manufacturing Division
National Acme
The National Acme Company • 182 E. 131 St., Cleveland 8, Ohio

For more details circle NED-480 F7 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this BULLETIN

WRITE FOR BULLETIN 213. Complete details and mounting dimensions on Hannifin Series "A" Square Type Fluid Power Cylinders, usable up to 200 psi, air or oil. This is the cylinder with the new, externally removable cartridge gland...the biggest improvement in cylinder design in the last 50 years. The "A" line is complete! 11 bore sizes from 1½" to 14"—13 standard mountings, many combinations. Steel heads. Brass bodies. Piston rods ground, polished and hard chrome plated. Send for Bulletin 213. It's the easiest catalog to use in the cylinder business.

HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

▲ For more details circle NED-481 F7 on enclosed inquiry slip ▲

ALCOA ABRASIVE TREAD PLATE

safest surface in your plant!

The tough particles that make a grindstone cut metal make it the safest of all surfaces for walking.

Alcoa, the nation's leading supplier of fused aluminum oxide for grinding wheels, is now making an aluminum tread plate from this identical material. By rolling these sharp abrasive particles into strong, light, rustproof aluminum, Alcoa offers a surface on which men can safely stand or work under almost any conditions. It stays slip-proof even when wet, oily or greasy. Since the abrasive is rolled in, its slip-proof qualities are more than surface deep!

If your plant contributes to the 20,000 deaths by falls that occur each year, or to the thousands of injuries, here's a way to stop them: install Alcoa® Abrasive Aluminum Tread Plate on catwalks, stairways, walkways, pedestrian lanes... wherever men work or walk... wherever surfaces get slippery.

Measured by the cost of even a single injury, the cost is trifling. For sample and complete data, use the coupon below. Aluminum Company of America, 1668-F Alcoa Bldg., Pittsburgh 19, Pa.

Your Guide to the Best in Aluminum Value

ALCOA ALUMINUM

THE ALCOA HOUR—Television's Finest Live Drama, Alternate Sunday Evenings

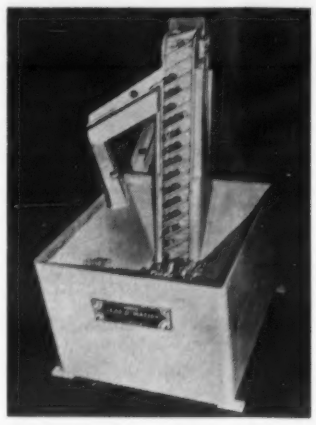
Aluminum Company of America
1668-F Alcoa Bldg.
Pittsburgh 19, Pa.

Please send literature and four-inch sample of abrasive tread plate.

Name and Title .....
Company .....
Use Being Considered .....
Address .....
City and State .....

▲ For more details circle NED-482 F7 on enclosed inquiry slip ▲

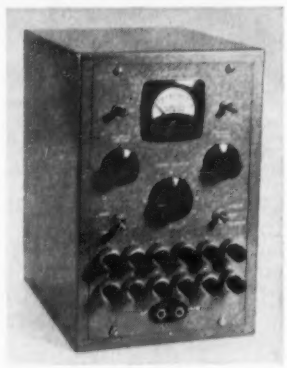
AUTOMATIC PARTS FEEDER handles parts that roll or slide



Automatic elevating, orienting and feeding of parts at high speed to automated production lines is function of this parts handling device. It feeds parts that roll or slide, such as gears or cylinders. Unit is custom built for a specific job, but is assembled from standard components. Parts are conveyor fed or truck dumped into the hopper section of the unit, then scooped onto slanted shelves for elevating and feeding to a distribution system. Improperly positioned parts are chuted back to the hopper. Feeder is driven by a ½-hp motor and variable speed transmission. Made by **Michigan Tool Co.**, Gear-O-Mation Div., 7177 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-483 F7 on enclosed inquiry slip ▲

THERMOCOUPLE CONTROL UNIT couples up to 12 measuring circuits



Temperature calibration and sensitivity adjustment in multichannel recording systems are made possible by model TC2 thermocouple control unit. This calibrator couples as many as 12 thermocouple measuring circuits into its recording element, and provides for the injection of known voltages to produce temperature calibration traces. A reference temperature base is also provided through a separate "bucking" voltage source included in the control unit. The model TC2 combines with RJ series reference junctions and any galvanometer type oscillograph to form a complete temperature recording system. Made by **Pace Engineering Co.**, Dept. E, 6914 Beck Ave., North Hollywood, Calif.

▲ For more details circle NED-484 F7 on enclosed inquiry slip ▲

Hydraulic Lift Trucks

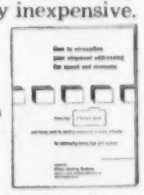
Big Joe Mfg. Co.—Factual information on line of manually propelled, battery operated hydraulic lift trucks is presented in 24-page illustrated catalog 257. The story on "in-between handling"—the concept of applying hydraulic handling to every department to achieve maximum handling potential with utmost economy is also presented. Specifications and prices are included.

▲ For more details circle NED-485 F7 on enclosed inquiry slip ▲

Fastest way to address cartons

Here's a way to address cartons that puts less modern methods to shame. Inexpensive, paper stencil is cut on a typewriter—separately or as by-product of shipping paper-work. It's then attached to small handprinter to imprint addresses directly on containers within "label frames" that have been pre-printed on the cartons by the carton manufacturer. Fast, clean, very inexpensive.

1 of 7 shipment addressing ideas described in new 16-page booklet. Send for free copy



Weber

Weber Marking Systems
Div. of Weber Addressing Machine Co., Inc.
Dept. 21-F
Mount Prospect, Ill.

▲ For more details circle NED-486 F7 on enclosed inquiry slip ▲

measure fluid flow with these low-cost meters

BULL'S EYE SIGHT FLOW INDICATOR
See flow thru ½" thick bolted sight glass cover. Estimate flow rate visually.

MAGNASIGHT ALL-METAL FLOW RATE INDICATOR
Gives fairly accurate reading of high pressure flow through straight runs in limited space.

RATOSIGHT FLOW RATE INDICATOR
Glass scale shows flow rate changes instantly with reasonable accuracy. Good for "roomier" installations or at pipe turns.

ARMORED PURGE METER
Rugged, all-metal, indicating flowmeter for gas, oil, and other purge fluids under high pressure.

All of these inexpensive flowmeters, along with many highly accurate, more expensive models comprising the F&P flowmeter line, are available from stock for immediate shipment. Write for data on those that interest you.

FP FISCHER & PORTER COMPANY
3567 County Line Road, Hatboro, Pa.

▲ For more details circle NED-487 F7 on enclosed inquiry slip ▲

READ LOW TORQUE DIRECTLY on large watch-face TORQUE WATCH

Model 6000B-1 clockwise dial Model 6000B-4 counterclockwise dial Model 6500C-1 bi-directional dial

Features

Easy-reading dial ..... 300° linear scale.
Compact ..... 1⅝" dia., 3-7/16" long.
Accurate ±5% std., ± 1% special order.
Light weight ..... only seven ounces.
Unbreakable crystal and face.
Chucks ..... ¼" or ½" capacity.

Six Models:

6000B-1 ..... .01 to 1.2 oz. in. CW.
6000B-2 ..... 1.0 to 20 oz. in. CW.
6000B-3 ..... .01 to 1.2 oz. in. CCW.
6000B-4 ..... 1.0 to 20 oz. in. CCW.
6500C-1 ..... .05 to 1.2 oz. in. Two-way.
6500C-2 ..... 1.0 to 20 oz. in. Two-way.

Additional ranges available on special order. Write today for data sheet describing all Torque-Watch gauges.

Waters MANUFACTURING, inc.
APPLICATION ENGINEERING OFFICES IN PRINCIPAL CITIES
Wayland, Massachusetts
P. O. Box 368, So. Sudbury, Mass.
MFG. INC.

▲ For more details circle NED-488 F7 on enclosed inquiry slip ▲

WANT ASSURED MOTOR PERFORMANCE?

Send for bulletins on FAIRBANKS-MORSE MOTORS

featuring COPPERSPUN Rotors

Mechanical strength...superior electrical and thermal characteristics of F-M Copperspun Rotors give assurance of improved performance of motors on sustained, heavy-duty drives.

Exclusive F-M centrifugal casting produces a one-piece homogeneous rotor, free from flaws and gas inclusion—virtually indestructible. Write for bulletins on F-M motors equipped with Copperspun rotors.
Fairbanks, Morse & Co., Dept. NED-6, Chicago 5, Ill.

FAIRBANKS-MORSE
a name worth remembering when you want the BEST

▲ For more details circle NED-489 F7 on enclosed inquiry slip ▲

GLOVE COSTS too high?

You can lower them...with the JOMAC COST-REDUCTION PLAN

We've proved to many large industrial gloye users that this plan gets results. Send for the free booklet shown here. It contains complete details about the plan—and striking evidence of its success. Write to Jomac Inc., Dept. G, Phila. 38, Pa., and ask for "Evidence" booklet.

WRITE TODAY!

JOMAC INDUSTRIAL GLOVES

Plants in Philadelphia, Pa., and Warsaw, Ind.
In Canada: Safety Supply Company, Toronto
In Europe: North-Jomac Ltd., London, W1

▲ For more details circle NED-490 F7 on enclosed inquiry slip ▲

SKY-BLAST®

moves more air at less cost

...powerful roof ventilator with NEW Smoke-Trip® Damper Opener

Because Propellair Sky Blast roof ventilators do not need the usual restricting weather cover which deflects and reduces air movement, they move more air at less cost. Fumes and heat are thrown high into the air, can't re-enter windows or turn downward to create roof maintenance problems. Their efficiency is not effected by wind velocity or direction. Weatherproof dampers open automatically when fan is started. Hot-dip galvanized after fabrication, Propellair Sky Blast ventilators are ruggedly built to give years of maintenance-free service. Available in sizes from 16" to 60" for 2820 to 78,800 CFM—PFMA Certified Ratings.

If desired, exclusive new Smoke-Trip heat-actuated venting device which automatically opens dampers in case of fire to exhaust smoke and fumes is available.

WRITE FOR BULLETIN NO. 680-N

R&M PROPELLAIR®

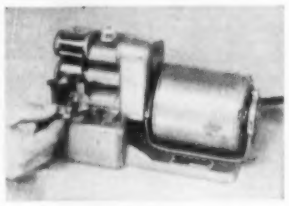
DIV. OF ROBBINS AND MYERS, INC.
SPRINGFIELD, OHIO

Certified Ratings PFMA

MOVING AIR IS OUR BUSINESS

▲ For more details circle NED-491 F7 on enclosed inquiry slip ▲

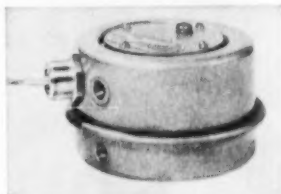
BENCH WIRE STRIPPER
strips No. 50 to 22 film insulations



Rapid removal of film type insulations from AWG No. 50 to 22 electrical conductors without damage to the conductor is done with this Twin-Wheel 11 general-duty wire stripper. Unit uses two 1¼-in. diameter glass fiber and silicone stripping wheels which are easily accessible at the front. It can be mounted on a bench or a bracket, at a coil winder or stripping station. Spring loaded ball bearing spindles are belt driven at 5500 rpm by 1/12-hp 115-v 3450-rpm induction motor. Made by **Carpenter Mfg. Co.,** Dept. F, Box 217, DeWitt 14, N. Y.

▲ For more details circle NED-492 F7 on enclosed inquiry slip ▲

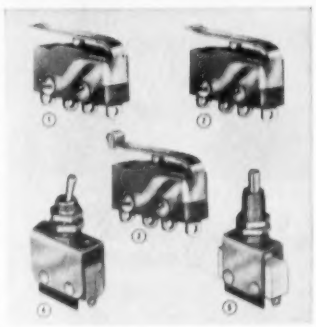
DIFFERENTIAL SWITCH
for vacuum and low pressure



Model 2273 metal diaphragm differential switch is offered in two classes for sensing pressure differences from 15 in. below to 80 in. of water above atmospheric pressure. Fixed actuation value ranges from 0.2 to 2 in. of water, depending on switch setting. Reference pressure must be air or an inert gas; variable pressure may be liquid or gas. Switch actuates an electric circuit on an increase or decrease of a predetermined pressure difference. Tamperproof adjustment is by external screw. Switch is not sensitive to vibration and operates in any position. Made by **Barksdale Valves,** Pressure Switch Div., Dept. NED, 5125 Alcoa Ave., Los Angeles 58, Calif.

▲ For more details circle NED-493 F7 on enclosed inquiry slip ▲

SUBMINIATURE SWITCH
now offered with five actuators



Leaf, frame leaf, roller leaf, plunger and toggle actuators (1 to 5, respectively, in photo) are now available for use with this ¾-in. long subminiature switch. Unit is rated at 10 amp at 125-250 v ac; ¼-hp, 125 v ac; and 10 amp, 28 v dc. Mechanism of the double - throw double-circuit design switch is enclosed in a plastic case. Made by **Robertshaw-Fulton Controls Co.,** Acro Div., Columbus 16, O.

▲ For more details circle NED-494 F7 on enclosed inquiry slip ▲

Heavy Duty Shuford's SHURTAPE®

does Double Duty in the Plant!

For heavy duty packaging and to protect machined metals in storage, in transit or during buffing, drilling or welding . . . use Shuford's SHURTAPE RP-25.

This heavy rope paper pressure-sensitive tape is rubber-impregnated for extra strength and high resistance to abrasion. Stands up under high temperatures . . . resists water, oil and solvents . . . adheres instantly, sure to seal and strips clean!

Heavy Duty Shuford's SHURTAPE does double duty in the plant . . . use it!

For more information, write

CLOTHES LINES • TWINES
PRESSURE SENSITIVE PAPER TAPES
SASH CORDS • WEATHER STRIPPING
COTTON & RAYON YARNS • EXTRUDED PLASTICS

Shuford Mills, INC. SINCE 1880 HICKORY N C

World's Largest Manufacturer of Cotton Cordage

▲ For more details circle NED-495 F7 on enclosed inquiry slip ▲

To meet your needs for variable speeds

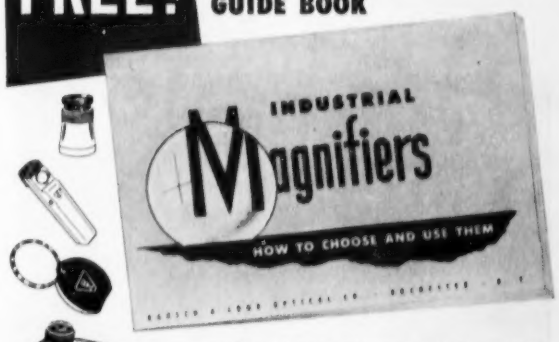
ASK FOR CLEVELAND SPEED VARIATOR BULLETIN K-200

THIS unique variable speed drive gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times input speed). Precise adjustment gives instant, smooth speed change by manual, automatic or remote control. Simple construction, compact, quiet running. No belts, no complicated linkage. Thousands in use.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, Ohio
Sales Representatives in all major industrial markets

▲ For more details circle NED-496 F7 on enclosed inquiry slip ▲

FREE! INDUSTRIAL MAGNIFIER GUIDE BOOK



Here's a 24-page manual full of practical information on the selection, uses and available types of industrial magnifiers, designed to help in solving those difficult problems involving testing, production, assembly, inspection, research and precision measuring. Send for your copy (I-67). Bausch & Lomb Optical Co., 51618 Bausch St., Rochester 2, N. Y.

BAUSCH & LOMB SINCE 1853

▲ For more details circle NED-497 F7 on enclosed inquiry slip ▲

Look into the advantages of combining Synthane Laminated Plastics with metals, rubber, etc.

Synthane plus aluminum — Synthane plus rubber

Because it is possible to bond Synthane laminated plastics to other materials *during* manufacture, many interesting applications are possible which combine the advantages of the two materials.

Synthane has been wedded to metals to obtain a combined insulator and conductor; with rubber to provide a rigid, leak-proof insulation; with vulcanized fibre to add arc resistance to high dielectric values. Synthane can be combined with cork, aluminum, copper, steel, neoprene, Buna S, etc.—and different grades of Synthane can be bonded to each other.

SYNTHANE

SYNTHANE CORPORATION
N. E. River Rd., Oaks, Pa.

☐ Please tell me more about combining Synthane laminated plastics with other materials.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle NED-498 F7 on enclosed inquiry slip ▲

TUBING
SHEETS
TUBES
RODS
*DU PONT TRADE MARK

TEFLON*

MOLDED
EXTRUDED
MACHINED

Phone
AMherst 4-0250
—or write—

Allegheny Plastics, Inc.
15 THORN RUN ROAD
CORAOPOLIS, PA.

For more details circle NED-499 F7 on enclosed inquiry slip

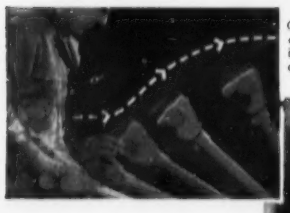
RAYMOND

ELECTRIC PALLET TRUCK

NO OTHER TRUCK QUITE LIKE IT!

Model WL4F, Capacity 4000 lbs.

FLATTENS OUT STEEP RAMPS even with full-capacity load because its four 6-volt batteries supply up to 24 volts— twice the voltage of ordinary walkies. Total of 3 separate speeds, forward and reverse. All controls on handle.



COMPLETELY SAFE Exclusive control automatically puts truck in reverse when it touches operator's body.

LIGHTER, MORE MANEUVERABLE Only ⅔ the weight of conventional walkies. Works in close quarters because of short overall length and wide steering arc.

NEW BULLETIN — SEND FOR IT

The RAYMOND CORPORATION
4138 Madison St., Greene, N.Y.

☐ Send latest Raymond Electric Pallet Truck Bulletin.
☐ Have a Raymond representative call on me.

NAME TITLE
COMPANY
STREET
CITY STATE

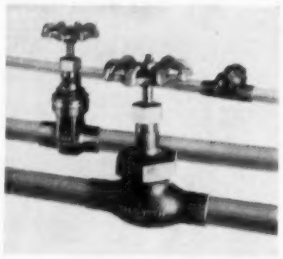
For more details circle NED-500 F7 on enclosed inquiry slip

POSITIONING FIXTURES have unlimited adjustment

Unlimited freedom of adjustment featured by these positioning fixtures is made possible by the multiplicity of swivels. Devices use an aircraft type wire rope running through center of a swivel series to tighten the series when desired position has been achieved. Available models include single clamp, 1-in. capacity model 7 (illustrated), double swivel model 27 of the same size, and the welder's model 107 with 2-in. clamp. Made by **R. E. Gunther,** Dept. AG, Princeton Junction, N. J.

For more details circle NED-501 F7 on enclosed inquiry slip

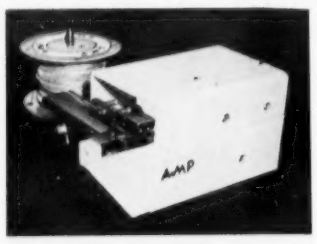
BRONZE VALVES for soldering on copper tubing



Bronze globe, gate and check valves in SJ series are designed for solder-joint service with K, L and M copper tubing used in steam, water, oil and gas service. Globe valve has a steam rating of 150 psi and nonshock cold water, oil and gas rating of 300 psi. Both gate and check valves have 125 and 200 psi ratings in the same services. All have engineering features of company's regular bronze valves. Gate and check valves are made in seven sizes from ⅜ to 2 in., while the globe valve is offered in ten sizes from ¼ to 3 in. Made by **Walworth Co.,** Dept. NED, 60 E. 42nd St., New York 17, N. Y.

For more details circle NED-502 F7 on enclosed inquiry slip

AUTOMATIC SPLICING MACHINE produces 1200 wire splices per hour



Up to 1200 identical splices on enamel, polyvinyl acetal and similarly coated wires can be produced with the automatic Horizontal splicing machine. These AMPli - var splices with multiple ring stripping action, eliminate need for scraping, solvent dissolving, burning or other methods of removing insulation. They are scarcely larger than the wires themselves, yet have high tensile strength. Joint is hermetically sealed during splicing, rendering it corrosion resistant. Splices can be used on solid or stranded conductors, or combinations thereof. Machine and splice developed by **AMP Inc.,** Eisenhower Blvd., Harrisburg 13, Pa.

For more details circle NED-503 F7 on enclosed inquiry slip

More horsepower-hours per dollar!

NEW!
ONAN
SHORT STROKE
ENGINES

Model CCK, 12.9 H.P., two-cyl., gasoline-powered.

Add the powerful sales features of Onan long-life engines to your equipment at no extra cost. Designed and built for continuous service; run hundreds, *even thousands of hours* with minimum attention. Compact, smooth-running.

Onan air-cooled engines are today giving outstanding performance and sales appeal to equipment such as portable welders, air conditioners, truck refrigeration, pumps, etc. Build competitive advantages into your equipment with Onan long-life, air-cooled power.

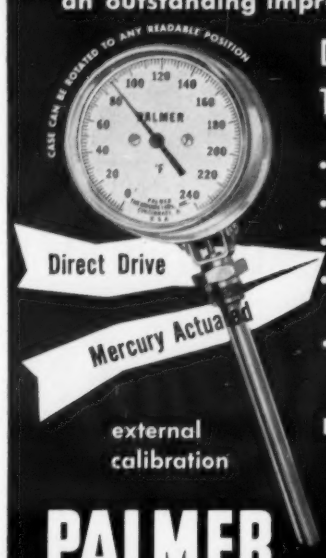
THREE MODELS—Model CCK, 12.9 H.P., two-cylinder, gasoline-powered. Model DRP, 15 H.P., two-cylinder, Diesel-powered. Model AJ 5.5 H.P., one-cylinder, gasoline-powered.

Write for Specifications!

Onan ELECTRIC PLANTS
D. W. ONAN & SONS INC.
3633 Univ. Ave. S. E., Minneapolis 14, Minn.

For more details circle NED-504 F7 on enclosed inquiry slip

PALMER presents
an outstanding improvement in
DIAL THERMOMETERS



• No Sector
• No Pinion
• No Linkage
• Constant Accuracy
• Easy Readability

external calibration

Full 3½" Dial Face

WRITE FOR BULLETIN 350

PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory Recording and Dial Thermometers

For more details circle NED-505 F7 on enclosed inquiry slip

DOUBLE CHAMFERED ALL-METAL RE-USABLE
Starts from either end—locks in body of nut, not at the crown.

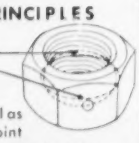
THE M·F TWO-WAY LOCK NUT
FOR FAST, AUTOMATED APPLICATION, WITHOUT SELECTIVE DEVICES

MORE LOCKING POWER WHEN BOLT ENDS MUST BE FLUSH WITH NUT

Because the locking device is in the body of the nut, not at the ends, the lock is farther from the end of the bolt—a more positive lock *even when all threads are not used!*

TWO LOCKING PRINCIPLES

TWO POINTS OF LOCK



Ovalized as well as deflected at point of lock. Opposing center pressure points give 180° spring.

OFF-THE-SHELF SIZES

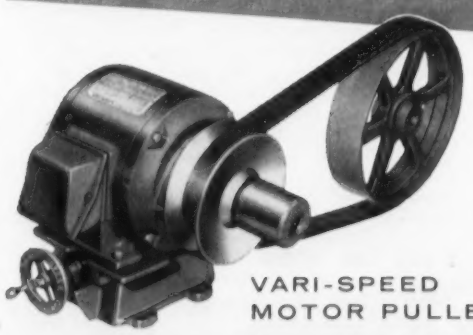
SIZE	THREADS PER INCH		FULL THICKNESS WIDTH ACROSS	FULL THICKNESS THICKNESS
#10 *	32	24	7/16	7/32
¼	28	20	7/16	7/32
5/16	24	18	½	17/64
⅜	24	16	9/16	21/64
7/16	20	14	5/8	⅜
7/16	20	14	11/16	⅜
½ †	20	13	¾	7/16
9/16	18	12	7/8	31/64
5/8	18	11	15/16	35/64
¾	16	10	1⅛	41/64

#¼" Blank † Available Jam Thickness in ½" and Over.

MAC LEAN-FOGG
Lock Nut Company 5535 N. Wolcott Street, Chicago 40, Ill.

For more details circle NED-506 F7 on enclosed inquiry slip

ADD FLEXIBILITY to your machines with the REEVES MOTOR PULLEY



VARI-SPEED MOTOR PULLEY

provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.

Write ND-30c-V545 for bulletin

REEVES PULLEY COMPANY
Division of RELIANCE Electric & Engineering Co.
COLUMBUS, INDIANA

For more details circle NED-507 F7 on enclosed inquiry slip

Easy-to-erect—Efficient—Economical
Ready for use by anyone, for any purpose, anywhere!

Pre-painted enameled finish steel, fire-resistant rustproof . . . pre-slotted, measure-marked, can be cut or joined at ¾" intervals for exact size in desired shape without waste . . . no drilling, no welding, just cut and bolt . . . 3 bolts in bearing at every joining make it rigid . . . disassembles easily, stores compactly, can be re-assembled in new form. A practical solution for in-plant structure problems.

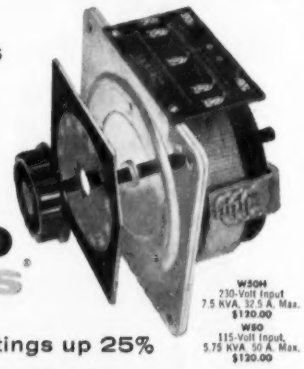
Authorized distributors in all principal cities carry stocks for immediate delivery. Write for informative bulletin TODAY.

FLEXANGLE CORPORATION
274 Park Road, West Hartford 7, Connecticut

For more details circle NED-508 F7 on enclosed inquiry slip

More Watts per Dollar

New type W50 Variacs®



W50H 230-Volt Input 7.5 KVA, 32.5 A. Max. $120.00
W50 115-Volt Input, 5.75 KVA 50 A. Max. $120.00

New Designs ★ Ratings up 25%
★ DURATRAK Brush Track for First Time in High-Power Models
★ Smaller ★ Lighter ★ UL Approved
★ Optional Ball Bearings ★ Motor Drives

Single, 2- and 3-Gang Models with Ratings from 5 KVA to 26 KVA; $120 and $440.

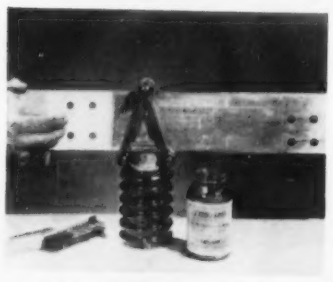
For Complete Information write for Supplement to Variac BULLETIN "O"

GENERAL RADIO Company
275 Massachusetts Avenue, Cambridge 39, Massachusetts, U. S. A.

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 920 S. Michigan Ave. CHICAGO 5
8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA
1000 N. Seward St. LOS ANGELES 38 1182 Los Altos Ave., Los Altos, Calif SAN FRANCISCO

For more details circle NED-509 F7 on enclosed inquiry slip

GENUINE — SIMPLE
SILVER PLATING
"ON THE JOB" WITH POWDER



Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool-Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready to use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

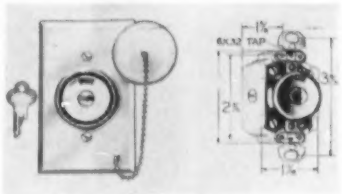
Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND SHIPPED PREPAID
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS
GENUINE • SIMPLE SILVER PLATING

The COOL-AMP Co.
Dept. ED. 8603 S.W. 17th Avenue, Portland 19, Oregon

For more details circle NED-510 F7 on enclosed inquiry slip

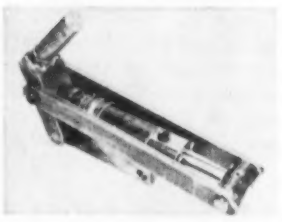
ROTARY LOCK SWITCHES
rated at 20 amp, 125 v



Operated only by turning a key in a Corbin pin tumbler lock, line of rotary lock switches is available in single-pole quad-break, actually a double-pole switch shunted across both ends for single-pole applications. Rated at 20 amp, 125 v, line includes weatherproof switches with flush plates and screw caps. Made by **Arrow-Hart & Hegeman Electric Co.**, 101 Hawthorn St., Hartford 6, Conn.

For more details circle NED-511 F7 on enclosed inquiry slip

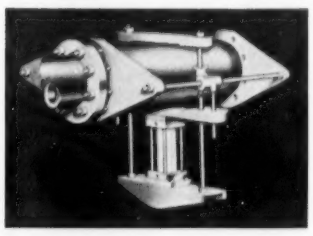
DOUBLE-ACTING HAND PUMP
for 10,000-psi hydraulic pressure



This variable leverage model 1687 double acting hand pump has a capacity of 0.475-cu in. per cycle (two strokes) for developing up to 10,000 psi hydraulic pressure. Designed for cranes, stackers, winches and other material handling applications, pump is normally used with 28-in. length of ¾-in. pipe for a handle. At 10,000 psi, operator will use left hand portion of stroke for 3.5:1 mechanical advantage. When lifting light loads at lower pressures, right hand portion of stroke gives better than three times usual speed. Made by **Mechanisms Co.**, Dept. ND, 118 E. Second St., Uhrichsville, O.

For more details circle NED-512 F7 on enclosed inquiry slip

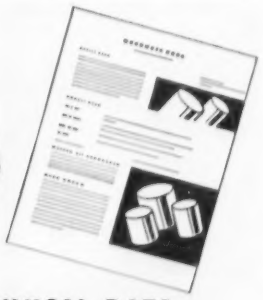
PINCH VALVE
handles abrasive, corrosive liquids



Improved models of the Massco - Grigsby pinch valve used for handling abrasive and corrosive pulps and liquids include the Hydral - Air operating mechanism for fast closing of valve. It consists of an air-hydraulic pump and can be installed as a centralized unit for operating several valves. It can also be equipped for automatic regulation where liquid level in tanks, or rate of flow in pipe lines must be controlled. Valve is available with either rubber or neoprene sleeves, in 1 to 14-in. ID sizes, for pressures to 150 psi and temperatures to 200° F. Other operating mechanisms include a torque arm reducer for manual operation and a motorized unit. Made by **Mine & Smelter Supply Co.**, 3800 Race St., Denver, Colo.

For more details circle NED-513 F7 on enclosed inquiry slip

FREE



COMPLETE TECHNICAL DATA ON LARGE OD THIN-WALL TUBING

Your personal copy of Data Memorandum No. 4 is now ready, containing complete information on large OD thin-wall tubing by Superior. Analyses, sizes, shapes, tempers, welding, lengths, production limits, and tolerances are all included, along with instructions on ordering.

Superior makes large OD thin-wall tubing in a wide range of analyses, including stainless, alloy and carbon steels, nickel and nickel alloys, beryllium copper, and titanium. Sizes range from ⅝" OD up to 2½" OD in certain analyses.

What other manufacturers classify as "specialty" tubing is standard at Superior. Let us help you with your tubing problems. For your free copy of Data Memorandum No. 4, write Superior Tube Co., 2018 Germantown Ave., Norristown, Pa.

Superior Tube
The big name in small tubing
NORRISTOWN, PA.
All analyses .010" to ⅝" OD—certain analyses in light walls up to 2½" OD

For more details circle NED-514 F7 on enclosed inquiry slip

VERSATILE CONTAINER SLASHES

SMALL PARTS HANDLING COSTS
low cost Stackbins are interchangeable in storage, processing and assembly

Flexible, easy-to-handle units are quickly and securely stacked in stockroom or at point of usage. No tools or bolts are required. Hopper front keeps parts always visible, instantly accessible.

Heavy, all welded steel construction in seven graduated sizes. Also available in combination with individual, interstacking racks.

All Stackbin products are sold direct
Save Handling Time, Save Space

WRITE FOR FREE CATALOG
STACKBIN CORPORATION, 1081 Main St., Pawtucket, R. I.
Mfd. & Sold exclusively in Canada by: Wickware-Stackbin, Ltd., Ottawa

STACKBIN® SYSTEM
"Stacked and Still Accessible"

For more details circle NED-515 F7 on enclosed inquiry slip

STEPHENS-ADAMSON
CARRIERS

Quality Features...

- SPUN END, ONE-PIECE ROLLERS . . . consisting of carrying surface and ends spun from a single piece of heavy gauge steel tubing plus an inner bearing tube welded to the spun ends.
- PERMANENTLY SEALED . . . precision ball or roller bearings are protected by a die cast labyrinth seal that will not corrode or wear . . . grease stays in, dust and dirt stay out.
- PRE-LUBRICATED . . . sufficient grease to last the normal life of each carrier is sealed into each roller at the factory. Alemite fittings also provide for easy re-lubrication if necessary.
- QUICK-CHANGE ROLLER . . . pre-adjusted rollers easily slide in or out of the hex slots in the end plates . . . provides fast roller changes without the use of tools.

Compare before you buy...it will cost you more to settle for anything less than STEPHENS-ADAMSON "QUALITY" CARRIERS.

WRITE TODAY FOR CATALOG NO. 355

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 Ridgeway Ave. Aurora, Illinois

For more details circle NED-516 F7 on enclosed inquiry slip

How to *reduce* crane rail costs

Here's some important help for plants with excessively high crane rail maintenance costs. It's a down-to-earth booklet on why USS Special Crane Rail Sections mean lower upkeep costs and fewer delays in crane operation. It also describes a special technique of rail-joint assembly, "floating rail" fastenings and three USS Special Crane Rail Sections. For your free copy, write to United States Steel, Room 5563, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS SPECIAL CRANE RAIL SECTIONS USS

UNITED STATES STEEL

For more details circle NED-517 F7 on enclosed inquiry slip

Check Harmful Vibration At Its Source

UNISORB MACHINE MOUNTS

Unisorb reduces up to 85% of transmitted vibration — protects against unseen wear and tear. Also helps increase machine speeds, get better quality workmanship.

PLUS . . . these money-saving extras:

- Up to 30% cheaper installation costs, 80% time saving.
- No floor drilling, no bolts or lag screws.
- Firm anchoring, yet permits moving when required.

Permanent alignment, no machine "walking," precision shimming.

FREE Sample and Booklet . . .

Tells how and why Unisorb will pay off for you. Mount just one of your machines and feel the difference. Send reader service card, call or write . . .

FE7-10

the **FELTERS** company
224 SOUTH ST., BOSTON 11, MASS.
Manufacturers of Felt and Felt Products
Representatives in principal cities throughout the world

For more details circle NED-518 F7 on enclosed inquiry slip

Cut Maintenance $600 yearly per unit with WORLD Hand Dryers

Best By Test!
Factory Guaranteed!

THOUGHTFUL BUYERS USE WORLD!
Marshall Field & Co.
Northwestern University
Chrysler Corp.
Union Pacific Railroad
Libby-Owens-Ford
Frick Building
U. S. Army
U. S. Navy
Gimbel Brothers
Howard Johnson's
Alton, Ill. Schools
Pick Hotels
Gulf Oil

Each high speed WORLD Hand Dryer can save up to $600 per year on paper and maintenance . . . dry hands fast as towels . . . keep washroom clean and sanitary.

Prove it to yourself under our FREE trial offer! Full details on request.

MAIL THIS COUPON NOW!

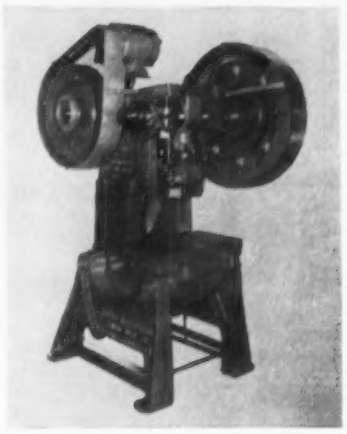
WORLD DRYER CORPORATION
616-22 W. Adams St., Chicago 6, Ill.

Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.

My name _____
Firm name _____
Street _____
City _____ State _____

For more details circle NED-519 F7 on enclosed inquiry slip

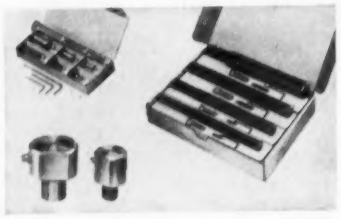
BACKGEARED PRESS
37-ton open-back inclinable unit



Operating at about 45 strokes per minute, this 37 - ton open-back inclinable backgeared press is suited for dial feed or other automatic feed equipment. It has a reinforced Unicast alloy frame, 3¼ - in. diameter crankshaft with bronze main bearings and roller bearings in the flywheel. Bolster size is 14 x 25 in. Standard stroke is 2½ in., but it can be increased up to 4 in. Shut height is standard at 10 in., but can be up to 20 in. Back shaft bearing supports are an integral part of the frame. Made by **Sales Service Machine Tool Co.,** Dept. N, 2363 University Ave., St. Paul 14, Minn.

For more details circle NED-520 F7 on enclosed inquiry slip

BORING BAR KITS
afford tools for 1 to 5¼-in. boring



Three packages comprise the Package Plan for convenient, economical boring needs. The Boring Bar 4-Some Package includes four boring bars with 1 to 3⅛-in. range and a short and long carbide-tipped tool bit for each size bar. Micrometer adjustment is made with individual wrenches. The Boring Bar Cartridge Package consists of three complete assemblies including cartridges, tool bits and wrenches. Cartridge assemblies are furnished to mount in boring bars at 53 or 90-degree angle. The Boring Head 2-Some Package includes a 2 and 3-in. diameter head, two long and two short tool bits for a 2¾ to 5¼-in. boring range. Heads with carbide-tipped tool bits can be micrometer adjusted. Offered by **Portable Double Quick, Inc.,** 1043 Sweitzer Ave., Akron 11, O.

For more details circle NED-521 F7 on enclosed inquiry slip

Basis Weight Control Systems

Industrial Nucleonics Corp.—AccuRay process control systems used to automatically measure and control basis weight of bond, publication, glassine, newsprint, kraft and asbestos papers is described in illustrated bulletin B-1657. Separate section covers systems used in paper converting field for weight control of such processes as coated abrasives, polyethylene extrusion, laminating, gumming and resin impregnation.

For more details circle NED-522 F7 on enclosed inquiry slip

MARSH *Mastergauge*

The gauge that has everything!

- **LEAK-PROOF ONE-PIECE CONSTRUCTION** . . . bourdon tube fused to socket and tip by exclusive "Conoweld" process.
- **STURDY "MARSHALLOY" CASE** . . . formed of boiler-plate-thickness steel, copper-clad inside and outside to give it the corrosion resistance of solid copper. It's one third lighter, but four times stronger than cast iron.
- **PRECISION "MASTERGAUGE" MOVEMENT** . . . with such exclusive features as the coined sector gear.
- **AVAILABLE WITH STAINLESS TUBE AND SOCKET** . . . choice of stainless steels and alloys for all corrosive conditions.
- **WITH "RECALIBRATOR"** . . . quickest and best way to keep a gauge accurate.

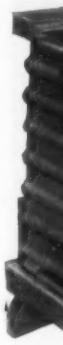
These features are combined only in "Mastergauge", standard bearer for the broad line of Marsh Gauges . . . each the best of its kind. Ask for data.

MARSH "THE STANDARD OF ACCURACY"

MARSH INSTRUMENT CO., *Sales Affiliate of Jas. P. Marsh Corp.,* Dept. 26, Skokie, Ill.
Marsh Instrument and Valve Co. (Canada) Ltd. 8407 103rd St., Edmonton, Alberta.
Houston Branch Plant: 1121 Rothwell St., Sect. 15, Houston, Texas.

For more details circle NED-523 F7 on enclosed inquiry slip

THIS BOX DO



1. PRODUCTION. Combined with Union Metal positioning stand this box provides automatic work-level positioning of material. Eliminates old-fashioned stoop-stretch-bend methods.

2. UNIT LOADS. Transfer, storage, stacking with fork truck . . . just like ordinary skid boxes.

3. DUMPING. Hinged drop-bottom feature automatically discharges parts or scrap quickly and with perfect control.

In addition, Union Metal offers industry's broadest line of conventional type material handling containers. Write for complete catalog information. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

For more details circle NED-524 F7 on

"On a low voltage situation, Fusetron dual-element Fuses opened and warned us of the need for a larger transformer"

HERMAN BOND, PRES.
ACME ELECTRIC CO., DENVER, COLO.

Mr. Bond continues . . . "A flock of Fusetron dual-element fuses blew one afternoon at the Duffy Bottling Works several weeks after we had com-

For more details circle NED-525 F7 on

EVERY

SKF

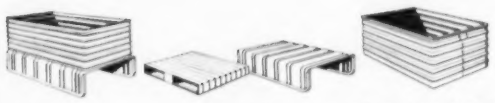
Ball Bear
Cylindric
Spherical
Tapered

SKF INDUSTRIES, INC., PH

For more details circle NED-526 F7 on

OES 3 JOBS!

THE WORK-O-MATIC*



*Patent No. 2,445,038

NED-524 F7 on enclosed inquiry slip

pleted changing the entire plant to this type of fuse in an effort to eliminate extreme heating in switches and to get more dependable protection.

"Before putting the circuits back in operation we wanted to find out what had caused the Fusetron fuses to open.

"On checking, we learned that a severe voltage drop occurred whenever the plant was in full operation. The trouble was due to the transformer being too small to keep the voltage at its normal value of 220 volts.

"To prevent the trouble recurring, a larger transformer was installed. Since then, they have had no more low voltage difficulty.

"By opening and warning of the need for a larger transformer, Fusetron fuses not only saved Duffy Bottling Works the expense of possible motor burnout, but also prevented costly slow-downs in their production."

DON'T RISK LOSSES! One lost motor . . . one needless shutdown . . . one destroyed switch or panel . . . one burned out solenoid . . . may cost you far more than replacing every ordinary fuse with Fusetron dual-element Fuses. *Write for Bulletin FIS.*

FOR LOADS ABOVE 600 AND UP TO 5000 AMPS.—USE BUSS HI-CAP FUSES! When coordinated with Fusetron fuses they will not open ahead of the fuse nearest fault . . . *Write for Bulletin HCS.*

BUSSMANN MFG. CO. (*Div. of McGraw-Edison Co.*)
St. Louis 7, Mo.

FUSETRON BUSS

657

NED-525 F7 on enclosed inquiry slip

SOS*?

Bearings needed in a hurry?
Don't panic, keep calm, don't worry
Call on the fastest, reliable source
An **SKF** distributor, of course.

Stocking all bearings and accessories,
He is factory trained for emergencies
With his door always open for an SOS
Look for the sign reading **SKF**. 7741

*Situation Of Stress

EVERY TYPE—EVERY USE

- *Ball Bearings*
- *Cylindrical Roller Bearings*
- *Spherical Roller Bearings*
- *Tapered Roller Bearings* ("Tyson")

Reg. U.S. Pat. Off. Tyson Bearing Corporation

TRIES, INC., PHILADELPHIA 32, PA.

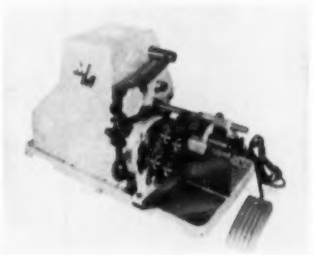
NED-526 F7 on enclosed inquiry slip

REVOLVING CLAMP
holds work to be drilled, milled

Used for holding down work to be drilled or milled, this revolving clamp assembly employs a detachable, spring lock revolving shoe on a knob screw for positive holding on uneven surfaces. Clamp will operate with either left or right hand swing by optional location of stock to be worked. It is available in 1½, 3 and 4-in. sizes. It is installed by drilling and tapping one hole. Made by **Jergens Tool Specialty Co.,** Dept. NED, 712 E. 163rd St., Cleveland 10, O.

For more details circle NED-527 F7 on enclosed inquiry slip

PARTS IMPRINTER
designed for cylindrical objects



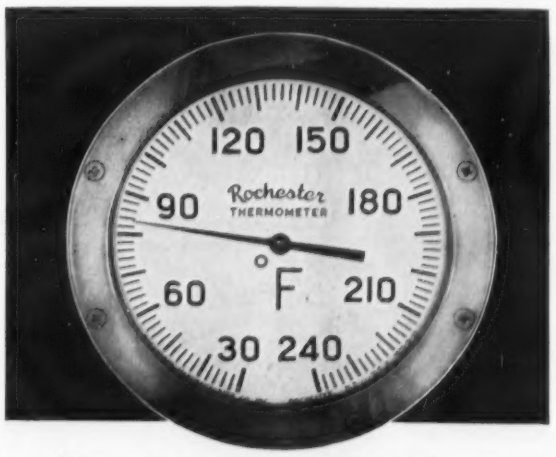
Four - station turret with interchangeable chucks and an automatic ejection feature enable the PLBRT marking machine to imprint from 30 to 40 cylindrical, tapered or conical objects per minute. The operator merely loads the chucks with the pieces to be marked. Bench mounted machine handles objects with maximum diameter of 1¾ in. which cannot be chute fed because of size or shape. Imprints are made by rubber printing plates using fast-drying marking compounds. Maximum imprint size is 2⅞ x 5¼ in. Made by **Markem Machine Co.,** Keene 64, N. H.

For more details circle NED-528 F7 on enclosed inquiry slip

FLOOR MACHINE MAGNET
attachment lifts 3 to 4 lb

Optional magnet attachment for model E-54M-2 or G-54M-2 Floormobile suction floor machine attracts nails, nuts, washers and other ferrous metal which is not picked up by the suction nozzle. Powerful enough to pick up 3 to 4 lb, the magnet rests on a cradle bracket behind the nozzle. It lifts out for cleaning. Made by **Handling Devices Co.,** Room 133, 43 Pearl St., Brookline 47, Mass.

For more details circle NED-529 F7 on enclosed inquiry slip



Why not remove temperature indication problems from your *unsolved list* by turning them over to RMC?

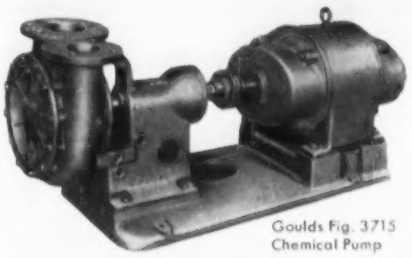
Just tell us your requirements for direct mounting or remote indicating instruments, and let RMC engineering skill provide the answers!

RMC

REPRESENTATIVES IN ALL PRINCIPAL CITIES

ROCHESTER MANUFACTURING CO.
114 ROCKWOOD STREET — ROCHESTER 10, N. Y.

For more details circle NED-530 F7 on enclosed inquiry slip



Goulds Fig. 3715 Chemical Pump

Here's the pump for your ABRASIVE and CORROSIVE liquids

You minimize your "hot" pumping problems—and expenses—with Goulds chemical pumps because *they're built to take it.*

With the Fig. 3715 pump, you can handle acids, alkaline liquor, hot size, and slurry. Besides severe service design, you get:

- long life
- low operating cost
- interchangeable parts
- easy maintenance
- variety of materials
- wide range of sizes

Learn more about this pump. Write for Bulletin 725.4.

MEMBER

Goulds PUMPS INC. Seneca Falls New York

Sales Offices: Atlanta • Boston • Chicago • Houston • New York • Philadelphia • Pittsburgh • Tulsa

For more details circle NED-531 F7 on enclosed inquiry slip

FASTER, BETTER INDUSTRIAL CLEANING

John BEAN

AQUABLAST
high pressure washers

Water discharged at 600 lbs. pressure from an Aquablast gun cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

1 man with AQUABLAST equals a crew of men using ordinary water pressures

John BEAN Division of Food Machinery and Chemical Corporation

fmc

INDUSTRIAL SALES DEPT.
LANSING 4, MICHIGAN SAN JOSE 1, CALIFORNIA

For more details circle NED-532 F7 on enclosed inquiry slip

CESCO...RIGHT—BEFORE YOUR EYES!

New CESCO plastic safety glasses
WITH ULTRA-MODERN LENS STYLE

• These new CESCO plastic frame safety glasses with the F7 shape lenses are not only superior in their field from the standpoint of fit and comfort but many users prefer their shape and style to that of most personal glasses.

In addition to their fine appearance, these safety glasses have many outstanding features. Among them:

New CESCO plastic frame safety glasses are available in 3 sizes. Note modern shape and style.

Frames are rigid and will retain original shape without bowing

Choice of 2 colors—opaque slate (to eliminate light reflection) or translucent flesh

Nosepads are broad bearing to give comfortable distribution of weight

Lenses are interchangeable—the same lens fits either right or left side • **Available in three sizes**

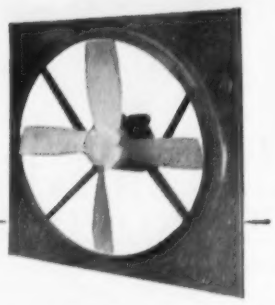
ASK your CESCO Safety Equipment Distributor to show you the new modern plastic frame safety glasses with the F7 lens—and the many other safety glasses and goggles in the complete CESCO line

CHICAGO EYE SHIELD COMPANY
2322 Warren Boulevard
Chicago 12, Illinois

CESCO FOR SAFETY

For more details circle NED-533 F7 on enclosed inquiry slip

New fan combines power with quietness



HUNTER

Write for literature and prices on the new R&M-Hunter heavy-duty "Q" Type Fans. Certified air deliveries from 2900 to 10800 CFM. Features include: a totally enclosed single-phase, permanent split capacitor motor; one-piece cast aluminum propeller in modern airfoil design; easily installed heavy steel frame with high-efficiency entrance ring.

HUNTER DIVISION - ROBBINS & MYERS, INC.
2456 Frisco Ave., Memphis, Tenn.

R & M-Hunter "Q" Type Fan

Backed by 75 years' experience

For more details circle NED-534 F7 on enclosed inquiry slip

ROCKET hammers reduce replacement costs

ROCKET Hammers are built to outlast all others in any kind of service, and are safer, too. Long-haul, they cost less for production or maintenance service.

Tubular boron alloy steel handle won't bend or break. Fully heat treated and chrome plated. Permanently locked to forged, highly polished head. Cushion grip soaks up shock, avoids fatigue, won't slip wet, dry, or in gloved hand.

Start saving now. Order trial ROCKETS for your shop. Available in all patterns and weights. Contact your mill or industrial tool supplier today. True Temper, 1621 Euclid Ave., Cleveland 15, Ohio.

FREE Industrial Tool Catalog
Send today for your copy of "TOOLS FOR INDUSTRY"—new catalog showing all True Temper tools designed expressly for industrial use. No obligation.

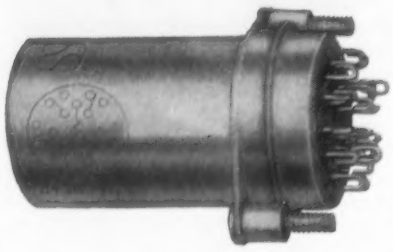
TRUE TEMPER®

Finest quality in Shears • Garden, lawn and farm tools • Shovels • Hammers, axes, hatchets • Fishing tackle • Golf-club shafts

For more details circle NED-535 F7 on enclosed inquiry slip

ALTERNATING CURRENT RELAYS
115 v units for −65 to 125° C

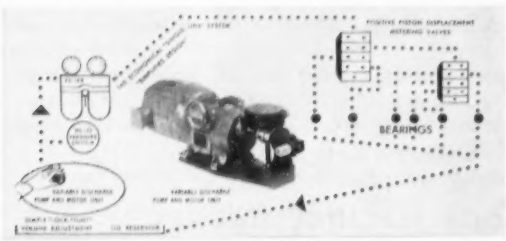
Silicon rectifier assemblies used in series of alternating current relays enables them to withstand temperatures from −65 to 125° C. Miniature units operate on 115 v, 60 to 400 cycles and are available in four and six-pole double-throw models with plug-in or solder lug connections and standard mountings. Hi-Lo contacts for switching loads of 2 amp or dry-circuitry level make possible their use on high and low current circuits. Gold alloy contacts are available for dry circuit use. Relays withstand vibrations up to 1000 cycles at 15 G and shock in excess of 50 G. Made by **Westinghouse Air Brake Co.**, Union Switch & Signal Div., 1805 Braddock Ave., Pittsburgh 18, Pa.



For more details circle NED-536 F7 on enclosed inquiry slip

LUBRICATION SYSTEM
in up to 100 cu in./min. ranges

Variable discharge pump and motor unit are included in the Mark II Meterflow circulating oil system which proportions oil to any number of bearings on a machine. Adjustable volume control is offered in 5 to 30 and 16 to 100 cu in.-per-minute ranges to meet various machine and oil viscosity requirements. Positive discharge at any setting assures all bearings of receiving lubricant at all times, winter or summer. Low pressure, low oil supply or blocked oil line will cause alarm signal lights to blink. High pressure dial cartridge filter is easily replaced without stopping the system. Made by **Trabon Engineering Corp.**, Dept. A, 28775 Aurora Rd., Solon, O.



For more details circle NED-537 F7 on enclosed inquiry slip

Plastic Pipeline Valves & Fittings

Walworth Co.—Polyvinyl chloride valves and fittings, expressly designed for piping systems in food processing, chemical, petroleum, paper, marine and similar fields, are subject of 16-page illustrated bulletin. Normal and high impact type valves and fittings for handling 315 different acid, alkaline and other fluids are listed in 4-page application table.

For more details circle NED-538 F7 on enclosed inquiry slip

in new all-weather sanitary, tamper-proof "throw-away" dispensers
of high impact styrene plastic

IN 2 sizes
500 Tablets
1000 Tablets
Easily Put Up
INDOORS OUTDOORS

"Pep-Up"®
The Original and Highest Quality
IMPREGNATED SALT TABLETS

- combat heat fatigue
- hold down hot weather accident rates
- help employees feel good and retain their vigor

Impregnated to Prevent "Salt Sickness". Each salt crystal individually coated to give slow, controlled dissolving, to prolong benefits and eliminate nausea.

Made and packaged by USSSCO under U. S. Patent No. 2,478,182

A SIZE AND PACKAGE FOR EVERY NEED
Select from list below. New all-plastic dispensers at no increase in price.

Item	Cat. No.
500 Tablets in Expendable Dispenser	1114
1000 Tablets in Expendable Dispenser	1124
1500 Tablets in Bulk Carton	1131
Carton, 72 "Vest Pocket" packets of 10 tablets each	1101

UNITED STATES SAFETY SERVICE CO.
Div. E-4, 1215 McGee St., Kansas City, Mo.
Branches in Principal Industrial Cities
Canada: Parmelee, Ltd., Toronto & Montreal

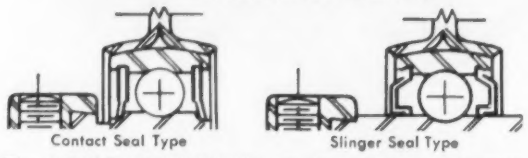
For more details circle NED-539 F7 on enclosed inquiry slip

SPACE-SAVING DESIGN...

FAFNIR 2-BOLT FLANGETTE

This low-cost, power transmission unit is specifically designed for applications where space limitations do not permit the use of the standard 3-BOLT Flangette. Applications include channel frames of elevators and conveyors . . . also on rolls closely spaced together.

CHOICE OF SEALS



The 2-BOLT FLANGETTE can be equipped with wide inner ring ball bearings, incorporating either Mechani-Seals (slinger-type) or Plya-Seals (contact-type). For details write The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS MOST COMPLETE LINE IN AMERICA

For more details circle NED-540 F7 on enclosed inquiry slip

Olson Wheel Conveyors in lightweight steel or ultra-lightweight aluminum, offer you more material handling economy and efficiency for your money. Designed by conveyor specialists. Olson units have hundreds of uses around the plant—save steps, time, labor and handle your loads safer. Easily moved, set-up or stored. Many accessories available for special-purpose jobs. Standard straight and curved sections in 12" or 18" widths in stock for immediate shipment. Get our prices before you buy.

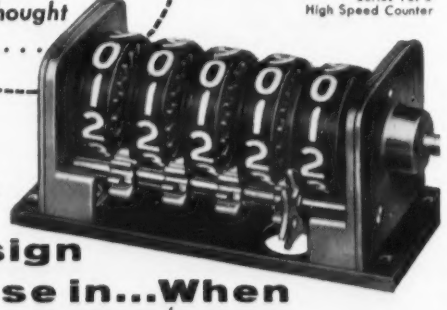
Write for catalog No. 4000. Contains complete information on Olson Wheel, Roller and Belt Conveyors.

OLSON CONVEYORS
SERVING AMERICAN INDUSTRY SINCE 1900
SAMUEL OLSON MFG. CO., INC.
2439 BLOOMINGDALE AVE.
CHICAGO 47, ILLINOIS
Offices in Principal Cities

For more details circle NED-541 F7 on enclosed inquiry slip

Forethought costs less than Afterthought so . . .

Series 1370
High Speed Counter



Design These in...When You Begin!

If you need mechanical or electrical counters in any of your new products, here's a word to the cost-wise designer: *Design them in, when you begin . . . don't tack them on later.*

For if you'll give us a chance to work with you, right from the beginning, chances are we can save you time and money by adapting or modifying a *standard* Veeder-Root Counter to your needs . . . where you might get into a costly special job if you went about it alone. What's more, you save time in your engineering, purchasing and assembly departments.

Count on Veeder-Root to help you in every way . . . from design to delivery.

Everyone Can Count on . . .
Veeder-Root Inc.
Hartford, Conn. • Greenville, S. C. • Chicago
New York • Los Angeles • San Francisco • Montreal
Offices and Agents in Principal Cities

For more details circle NED-542 F7 on enclosed inquiry slip

IF YOU USE THESE PRODUCTS

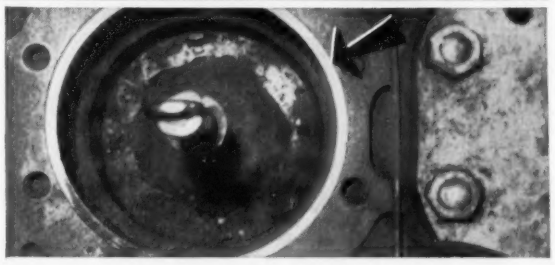
send for the world's most complete, illustrated catalog of ELECTRIC LANTERNS and SAFETY CANS

VALUABLE DATA:
- The world's first comprehensive table of lamp and battery operating information
- High power searchlights
- All-purpose hand lights
- Safety lights and lanterns
- Flammable liquid SAFETY CANS
- Oily Waste Cans

JUSTRITE Mfg. Co.
2061 N. Southport, Chicago, Ill.

CATALOG NUMBER 569-E-6

For more details circle NED-543 F7 on enclosed inquiry slip



Saves $10,000 engine blocks by welding with Ni-Rod "55"

Seal rings on cylinder sleeves *once* were a headache for the owner of a fleet of diesel tugs. Corrosion of these rings by the salt water coolant ruined $10,000 engine blocks.

Now the rings are *rebuilt* by welding with Ni-Rod* "55"* electrode. To date, the company has salvaged 23 blocks—worth nearly a quarter of a million dollars!

With Ni-Rod "55" electrode, it's easy to produce strong, machinable welds in cast iron. You get stable arc, smooth bead contour. *Most jobs need no preheat.*

See how others simplify cast iron welding. Send for the folder, "Repair Cast Iron Parts Quickly and Easily." Circle the number below on the NED inquiry slip.

THE INTERNATIONAL NICKEL COMPANY, INC.
69 Wall Street New York 5, N. Y.
*Registered trademark

INCO Welding Products Electrodes • Wires • Fluxes

For more details circle NED-544 F7 on enclosed inquiry slip

Have You Considered the Important Advantages of FILLED TEFLON*?

Teflon can be considerably enhanced by the use of fillers in certain applications. The use of fillers permit it to be more readily tailored to a wide variety of chemical, electrical and mechanical applications. Also, some mechanical properties can be improved. These include:

1) resistance to deformation under load
2) resistance to wear
3) thermal conductivity
4) compressive strength
5) hardness

This is the reason filled Teflon has become an important item in the "John Crane" Chemlon® line of better Teflon products.

Chemlon is available with such fillers as glass fiber, carbon, graphite, copper and bronze, talc, calcium fluoride and other inorganic materials.

Request Bulletin T-104. Tell us about your requirements.

Crane Packing Company, 6411 Oakton Street, Morton Grove, Ill. (Chicago Suburb). *In Canada: Crane Packing Co., Ltd., Hamilton, Ont.*

*DuPont Trademark

For guide bushings, vanes and wear rings.

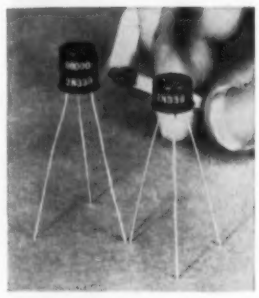
For formed gaskets, valve seats and packings.

For electronic bushings, insulators and tuning slugs, also rod and tubing.

CRANE PACKING COMPANY

For more details circle NED-545 F7 on enclosed inquiry slip

SILICON TRANSISTORS operate stably at up to 302° F



Addition of 15 new silicon transistors in round welded cases to this company's line brings the total number of types made to 36. Usable with automatic production techniques, they meet military specifications and operate stably at up to 302° F. Two switching transistors have total switching times down to 100 milli-microseconds. Both are N-P-N grown-diffused types featuring high alpha cutoff frequencies and low collector capacities. No. 2N338 is used in high gain; the 2N337, in medium gain circuits. The other thirteen include three high frequency tetrodes, five medium power devices and five small signal transistors. Made by **Texas Instruments Inc.**, 6001 Lemmon Ave., Dallas 9, Tex.

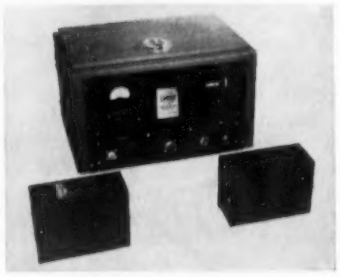
For more details circle NED-546 F7 on enclosed inquiry slip

CORRUGATED CONTAINERS feature self-adhesive flaps

Pressure - sensitive adhesive flaps on these Presseal corrugated cartons allow on - the - spot packaging without glue, tape or staples. Containers are offered in various sizes to meet many packaging applications and help reduce costs and packaging time. Made by **Growers Container Corp.**, Dept. R, Salinas, Calif.

For more details circle NED-547 F7 on enclosed inquiry slip

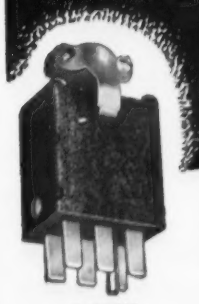
PHOTOELECTRIC INSTRUMENT detects micro-lumen light changes



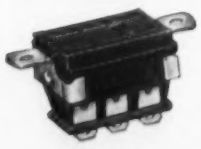
Light changes in the micro - lumen range are detected by this photoelectric instrument used to spot deviations from normal configuration of solids, liquids and visible gases passed before it. Sensitivity is adjustable. Typical uses are detecting flaws in textiles, and counting and maintaining quality control in yarn production. Stop motion can be actuated by the instrument, if desired. In yarns with many 0.00015-in. filaments, unit will detect a break of one of the filaments at a distance up to 25 ft. Made by **Lindly & Co.**, Dept. N, 80 Herricks Rd., Mineola, N. Y.

For more details circle NED-548 F7 on enclosed inquiry slip

FOR PUBLIC ADDRESS, RADIO, and kindred fields, specify JONES 400 SERIES PLUGS AND SOCKETS of proven quality!



P-406-CCT



S-406-AB

Double Contact Area

Phosphor bronze knife-switch socket contacts engage both sides of flat plug contacts.

Socket contacts phosphor bronze, cadmium plated. Plug contacts hard brass, cadmium plated. Insulation molded bakelite. Plugs and sockets polarized. Steel caps with baked crackle enamel. 2, 4, 6, 8, 10, 12 contacts. Cap or panel mounting.

Information on complete line, in Jones Catalog 21: Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write.

HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-549 F7 on enclosed inquiry slip

How to make "off-the-shelf" units do special filtering jobs

Save time, money and headaches by using Purolator standard units to solve your filter problems — no matter how specialized. Wide range of requirements covered!

ACIDS	FATS	PAINTS
AIR	FOODS	PASTES
ANTIBIOTICS	FUEL	PETROCHEMICALS
ANTIFREEZE	GASES	PIGMENTS
BEVERAGES	GASOLINE	REFRIGERANTS
CATALYSTS	GREASE	SOLVENTS
COATINGS	HYDRAULICS	SYNTHETICS
CONFECTIONS	INTERMEDIATES	SYRUPS
COOLANTS	LACQUERS	TOOTHPASTE
COSMETICS	LIQUORS	VARNISHES
CUTTING FLUID	MEDICINES	VEHICLES
DETERGENTS	OILS	VITAMINS
ESSENTIAL OILS	OINTMENTS	WATER
		WAXES

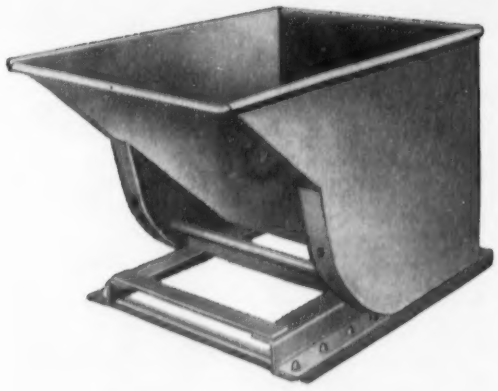
Filtration For Every Known Fluid

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada

WRITE for Industrial Filter Catalog, or send schematic drawing and details for specific recommendation. Address Purolator Products, Inc., Rahway, N. J.

For more details circle NED-550 F7 on enclosed inquiry slip

Low Cost Way to Dump and Store



New Model F1A Pallet Type Phil-Dump

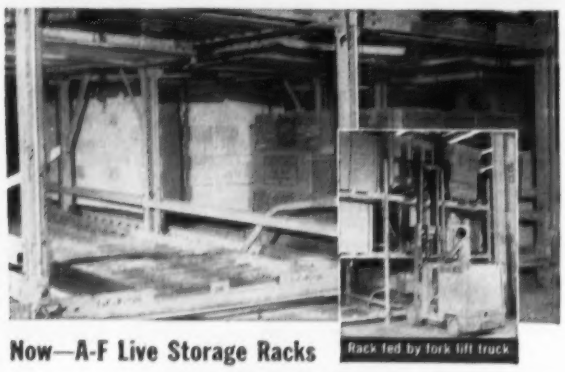
With the use of a lift-truck, a large variety of bulk materials are easily loaded and dumped or stacked and stored with this new labor-saving Phil-Dump. Redesigned to avoid spillage, this money-saving device boasts the sturdy construction for great durability for which all Phillips equipment is famous. Features are a non-slip pallet slot and a patented safety lock which permits automatic but not accidental dumping. Capacity is 1 cu yd. Send order to Salem-Brosius.

SALEM-BROSIUS, INC.
16 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

Manufacturers Since 1863

For more details circle NED-551 F7 on enclosed inquiry slip



Now—A-F Live Storage Racks for loads that weigh tons!

Made of A-F rollers, A-F Heavy Duty Racks give you all the advantages of live storage for extra large or heavy loads. Quick reference organization, first-in first-out control; efficient short-term storage. For example, the above rack stores palletized lots of firebrick for a leading furnace manufacturer. Different kinds of brick are kept organized, ready for quick installation as furnace components. The heavy loads move through rack lanes by gravity, are retarded by automatic brakes and hand-operated stops. A-F manufactures a complete line of light and heavy duty rollers from 30 to 8,000 lb. capacity per roller. This unusually wide variety of components enables us to fit your job exactly. Write today for complete information.

A-F Conveyors

A-F founded the package conveyor business in 1901.

The Alvey-Ferguson Co., Dept. PA-6, Cincinnati 9, Ohio

For more details circle NED-552 F7 on enclosed inquiry slip

picked for PACKAGE BOILERS

Yarway Type "B" Seatless Tandem Blow-Off Valve with angle valve sectioned to show balanced sliding plunger.

- Because a good blow-off valve makes good package boilers even better—leading package boiler makers use Yarway Blow-Off Valves.

You can specify Yarways, too! Yarway Seatless Valves have no seat to score, wear, clog or leak—give free, unobstructed flow and drop-tight shut-off.

Bulletin B-426 gives the full story. Write for it today.

YARNALL-WARING COMPANY
131 Mermaid Ave., Philadelphia 18, Pa.
Branch Offices in Principal Cities

YARWAY **SEATLESS BLOW-OFF VALVE**

For more details circle NED-553 F7 on enclosed inquiry slip

BENCH LAPPING MACHINE relaps its own plates after job run

This 165-lb, 15 x 14½-in. bench-type lapping machine can produce lapped surfaces accurate to 11.6 millionths of an inch. Quality control is maintained because the Lap-King is designed to relap its own plates, one against the other, after a normal job run. An hour meter records exact amount of lapping time on each plate. An automatic timer, operating in a one-hour cycle, allows job time control. Machine is powered by ¼-hp 110-v ac/dc motor and is equipped with three lapping plates, lapping compound and lubricant. It is priced under $800. Made by **Byron Jackson Pumps, Inc.**, Dept. NED, Box 2017, Terminal Annex, Los Angeles 54, Calif.

For more details circle NED-554 F7 on enclosed inquiry slip

ALL-METAL BUILDING all parts delivered in "package"

Delivered to the job site as a "package," this all-metal "standard building" includes all siding, roofing, windows, doors and hardware. It is suited for

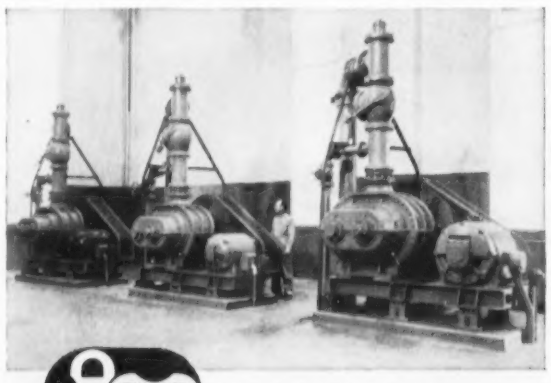
warehouse, storage, shelter and small plant use. Construction men and engineers of the manufacturer erect the building when delivered to the site, usually within two or three weeks after order is placed. Only work required of the customer is to provide the floor or base for the building. Widths available are 32, 36, 40, 44 and 48 ft, heights are 12 or 14 ft and length is unlimited. Interior is unobstructed. Windows and doors are available in a number of sizes, types and locations. Made by **Republic Steel Corp.**, Truscon Div., Dept. NED, Youngstown, O.

For more details circle NED-555 F7 on enclosed inquiry slip

Automatic Electrical & Pyrometer Controls

Tipp-Tronic, Inc.—Packaged automatic controls suited for industrial applications where a chemical or mechanical function can be measured electrically are described in 16-page illustrated catalog AC-2. Units discussed can control temperature, torque, viscosity, current, welding timing, conveyor overload, speed, plating, radiation, moisture content and other factors.

For more details circle NED-556 F7 on enclosed inquiry slip



SUTORBILT

BLOWERS • GAS PUMPS • VACUUM PUMPS

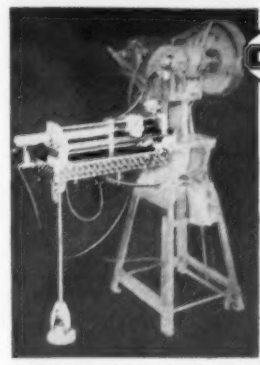
Special features, such as heavy duty roller bearings, wide face herringbone gears and the exclusive Sutorbilt timing hub are all designed to assure you trouble-free service and longer operating life. Simplicity of design and rugged construction are further plus values.

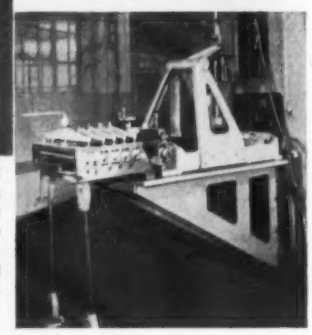
Standard units are available in capacities to 20,000 CFM and pressures or vacuums up to and including 10 psig.

Check the yellow pages of your telephone book for nearest representative. S-2 4264

SUTORBILT CORPORATION
Subsidiary of Fuller Company • Catasauqua, Pa.
5200 E. 60 St. P.O. Box 269 • Maywood, Calif.

For more details circle NED-557 F7 on enclosed inquiry slip





Above: ASF-12 U. S. Air Operated Slide Feed. On light work requiring long feed this type of feed permits use of presses much smaller than would ordinarily be required.

Right: SF-24-24 U. S. Slide Feed equipped with Plain Straightener. Capacity for material up to 24" wide.

U.S. PRODUCTS IMPROVE YOUR PRESSROOM PRODUCTION

Gain all the advantages from the use of coil stock in your press room by arranging your presses with automatic equipment. The illustrations show two of the many units included in the line of U. S. Automatic Press Room Equipment designed to help you reduce costs and improve production. Every operation eliminated will increase your profit potential and place you in a more favorable position in today's competitive market.

Interested? Write for Bulletin 80-N

U. S. TOOL COMPANY, Inc.
Ampere (East Orange) New Jersey

For more details circle NED-558 F7 on enclosed inquiry slip

WHY WASTE YOUR PROFITS ON MAKESHIFT SETUPS?

T-NUT & STUD SETS—12 SIZES

STEP BLOCK & CLAMP SETS—5 SIZES

PUNCH PRESS SETS—5 SIZES

BE WISE *Save with* NORTHWESTERN

CATALOG No. 23 SENT ON REQUEST

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle NED-559 F7 on enclosed inquiry slip

MONEY in this "BANK" for YOU!

A bank of Clippard Miniature Three-Way Air Valves (MAV-3) like this, cycled with Clippard Miniature Pneumatic Cylinders, Manifolds, Fittings and Accessories for automatic or semi-automatic work functions can produce immediately BANKABLE dollars and cents for you thru faster, better, more profitable output!

Clippard Miniature Pneumatic Devices are small in size, easy to mount and as versatile as your imagination. They are ruggedly made for millions of cycles of trouble-free operation, yet are surprisingly low in cost.

Keep a supply of Clippard pneumatic components on hand in your stockroom to lick that next automatic control, work feeding or holding operation on a moment's notice. Write NOW for free literature and attractive prices.

DEALERS-DISTRIBUTORS: Write for attractive NEW sales proposition

Clippard INSTRUMENT LABORATORY, INC.
7362-N Colerain Road, Cincinnati 24, Ohio
Manufacturers of R.F. Coils, Electronic Equipment, Miniature Pneumatic Devices

For more details circle NED-560 F7 on enclosed inquiry slip

NEW DESIGN

Sahlin Replacement Jaws

- Smaller area jaw has greater gripping force; tough steel inserts are easily replaced.
- Heavy duty bore easily substituted for standard 2" bore—gives up to 40% more gripping force.
- All parts jig-milled to make them interchangeable; all fasteners tool crib items.
- New jaws weigh 8 - 10 lbs. less.
- Off-the-shelf Deliveries.
- Special jaws—special features available.

SEND FOR DESIGN DATA

Sahlin Engineering Co., Inc.
Birmingham, Michigan

For more details circle NED-561 F7 on enclosed inquiry slip

"SPOT the Light where you want it... LIGHT the Spot where you need it."

Adjustable SWIVELIER
COOLITES

PREVENT BURNS

STAY COOL
Using 100-Watt Lamp

LOCKED-IN SPRING-TENSION PREVENTS DROPPING DOWN OR WORKING LOOSE.

"Never gets too hot to handle"

SWIVELIER FLUORESCENT
DEXTRA-LITES

Adjust to any position

For . . . desks, assembly tables, drafting boards, inspection tables, repair benches, etc.

Made with the
UNIQUE, SPRING-TENSION SWIVELIER SOCKET

UNIVERSALLY ADJUSTABLE
ANGLES 90° ROTATES 360°

"STAYS PUT . . . AT ANY ANGLE!"

• ALL WIRES ENCLOSED

• For full details on Coolites, fluorescent and incandescent "Dextra-Lites" and other fine Swivelier Industrial Lighting Units
Write: Dept. NED6 for Bulletin 134.

SWIVELIER COMPANY, Inc.
43—34th St., Brooklyn 32, N. Y.
Showroom: 30 Irving Place, New York, N. Y.

TRADEMARK

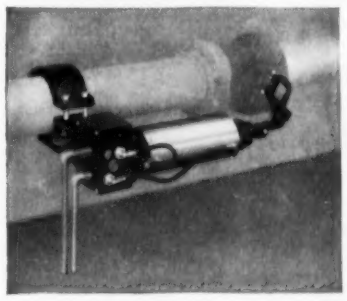
For more details circle NED-562 F7 on enclosed inquiry slip

HAND FASTENING TOOL
hammer drives pins into concrete

Hammer is source of power which enables the Omark Hammer Drive hand fastening tool to drive a hardened steel drivepin into concrete or steel. Drivepin inserted from the bottom of the tool is held steady by a plastic washer during driving. Ram is inserted into the barrel from the top and the tool is held against the receiving material. Two or three hammer blows force the drivepin into concrete, masonry, concrete or cinder block or mild steel. Four types of drivepins in over 30 sizes are available. Made by **Omark Industries,** Dept. D-E, 9701 S. E. McLoughlin Blvd., Portland 22, Oreg.

For more details circle NED-563 F7 on enclosed inquiry slip

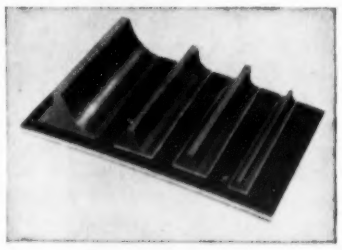
PLUG VALVE ACTUATOR
made in 1 to 8-in. valve sizes



Automatic operation of plug valves in power plants, water works, chemical plants and similar fields is afforded by Pantex plug valve actuators. The packaged assemblies are attached to pipe and plug valve stem without special tools. Actuators are made in 1 to 8-in. pipe sizes and fit all popular makes of plug valves. Ten and 12-in. pipe sizes will be offered soon. Made by **Pantex Mfg. Corp.,** Box 660-PZ, Pawtucket, R. I.

For more details circle NED-564 F7 on enclosed inquiry slip

CONVEYOR BELT CLEATS
available in four heights

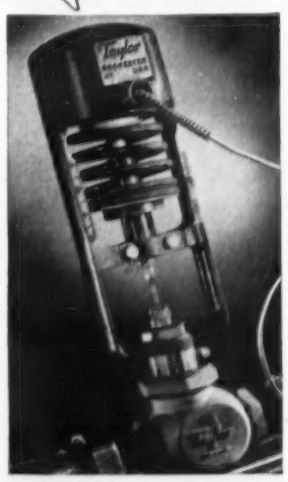


Tendency of gravel, large wood chips or other items to slip or roll back down an inclined conveyor belt can be checked by installation of Rema cleats. Easily affixed, they can be applied across the belt, in the form of V's, along the sides to act as guide rails, or in any other pattern. Heights of 7/16, ¾, 1 and 1½ in. are available in 36-in. lengths. Distributed by **Flexible Steel Lacing Co.,** 4607 Lexington St., Chicago 44, Ill.

For more details circle NED-565 F7 on enclosed inquiry slip

LEAVE IT TO ME!

THE Taylor Self-Acting Temperature Controller needs minimum attention and maintenance—ideal for jobs like: **wax coating machines, plating and rinsing tanks, bottle and can washers, mixing and cooling kettles, crude oil treaters, condenser cooler water in stills, oil field superheaters, hot water tanks, etc.**



Numerous standard temperature ranges within 10° and 340°F.; semi-standard within 165° and 610°F.

Choice of bulb materials and types of connection.

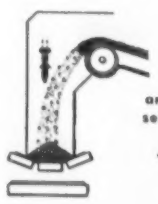
Ask your Taylor Field Engineer or write for **Catalog 36-R**

Taylor Instrument Companies
Rochester, N.Y., and Toronto, Canada

Taylor Instruments MEAN ACCURACY FIRST

For more details circle NED-566 F7 on enclosed inquiry slip

ROBINTRONIC
AUTOMATIC LEVEL INDICATOR FOR BULK MATERIALS HANDLING



Single Unit
One probe and complete self-contained electronic control unit.

Dual Unit
Two independently operating probes and single control unit.

This accurate, easily installed electronic unit actuates an audible or visible signal to warn operators when materials vary from the pre-set level. When equipped with a power relay, it can also control the flow of materials by stopping and starting motors and other equipment.

RoBINtronic requires neither adjustment nor lubrication. It is engineered for heavy industrial service and functions with materials of all densities from rock and coal to grain and sand.

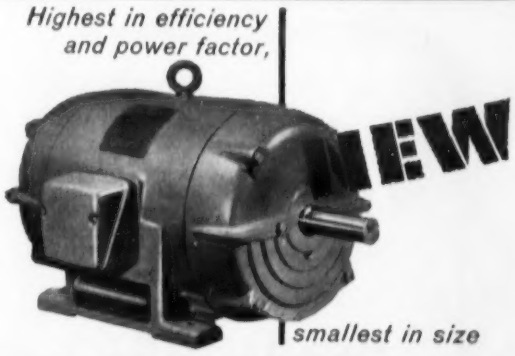
Send for free Bulletin 166, Department R, Hewitt-Robins, Stamford, Connecticut.

HR

HEWITT-ROBINS

For more details circle NED-567 F7 on enclosed inquiry slip

Highest in efficiency and power factor,



smallest in size

SYNCRO-*SPEDE*
The Louis Allis synchronous induction motor

The new Louis Allis "Syncro-Spede" synchronous induction motor delivers constant speed throughout its *entire* load range. Ideally suited for multiple-motor systems where several motors must operate in exact synchronism.

New design is really compact—"Syncro-Spede" actually comes in same frame size as induction motor of comparable hp! High efficiency and power factor provide operating economy. Available in sizes up to 100 hp. For facts, write The Louis Allis Co., 436 East Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

For more details circle NED-568 F7 on enclosed inquiry slip

NEW...Easiest to install Edge Control Regulator Ever Built!

SIMPLE—Easy to understand, easy to install, easy to use.

EASY TO MAINTAIN—Needs almost no attention. Any mechanic can take care of it.

DESIGNED BY CONTROL ENGINEERS—Only web guide made by specialists in industrial modulating controls.

NON-CONTACT—Nothing touches the web but a breath of air. No wear or damage to the edge of the material.

DEPENDABLE—Uses the same kind of equipment that heavy industry relies on for the most exacting control jobs. Nothing delicate about it; it's built to take abuse.

ACCURATE—Has never come out second-best in any accuracy test. Proved to be the most accurate web guide on the market.

CONTINUOUS CONTROL—Continuously measures and corrects any runouts. No dead zones. Responds to web position error of half a hundredth of an inch.

NO CLOGGING—Dust, lint, clay or glue will not clog up the control.

Write Askania Regulator Co., 258 E. Ontario Street, Chicago, Illinois for catalog.

ASKANIA REGULATOR COMPANY
"CONTROLS FOR INDUSTRY"
HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS

A SUBSIDIARY OF GPE

For more details circle NED-569 F7 on enclosed inquiry slip

NOW A
NEW DEPARTURE
IN PILLOW BLOCKS

- Clean, rigid, compact design.
- Free of any lubricating fixtures.
- Bearings sealed and lubricated-for-life.
- Easily mounted without special tools.
- High capacity precision ball bearings.
- Accommodates any misalignment.
- 31 shaft sizes, ½" through 2 7/16".
- Interchangeable with most makes.

Send for Catalog PBC for complete details.

NEW DEPARTURE
DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

For more details circle NED-570 F7 on enclosed inquiry slip

will you
PICK
THE RIGHT
GEARMOTOR?

Be sure
the
easy way
ask for the

NEW WESTINGHOUSE
ENGINEERING MANUAL

All under one cover you'll find complete facts, arranged for quick selection, of Westinghouse Life-Line® "A" gearmotors in ratings up to 75 hp. . . . single, double or triple reduction. Covers: motor types—frame sizes—peak loads—overhung load capacities—construction and installation features. Delivery on any unit through your local Westinghouse Sales Office.

J-07861

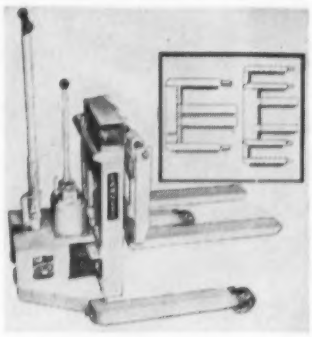
YOU CAN BE SURE...IF IT'S
Westinghouse

YOUR FREE COPY

of manual B-6397-A is waiting. Write Westinghouse Electric Corporation, 3 Gateway Center, P. O. Box 868, Pittsburgh 30, Pa.

For more details circle NED-571 F7 on enclosed inquiry slip

STRADDLE LIFT TRUCK
hand pump gives 1-ton capacity

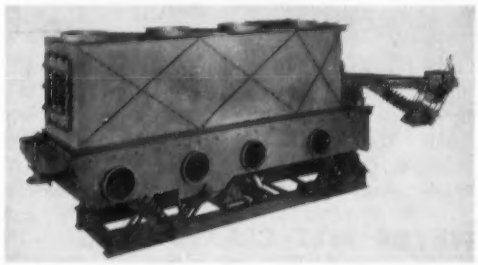


Skids, pallets and rolls, as well as machines and reels, are readily handled with this Multi Purpose Transporter. The hand-operated lift truck has base straddle members which adjust to give inside clearance width from 33 to 49 in. Models 30 and 42 both have forks that slide easily on polished shafts to accommodate up to 48-in. wide pallets or skids with stringer lengths up to 36 and 48 in., respectively. Loads are lifted up to 14 in. above floor by manually operated pump, and lowering speeds from 0 to 20 fpm are throttle valve controlled. Large wheels roll easily over floor irregularities, ramps and thresholds. Push-pull handle pivots 360 degrees on ball bearing turntable for maneuvering loads. Made by **Langley Mfg. Co.**, Dept. NED, 923 Cambridge St., Cambridge, Mass.

For more details circle NED-572 F7 on enclosed inquiry slip

MECHANICAL VIBRATING DRYER
handles 900 lb per hour of 100-mesh pharmaceutical and chemical powder

The 3 x 15-ft mechanical vibrating dryer shown with separate small carrier feeder will handle 900 lb per hour of 100-mesh crystalline material, gently drying

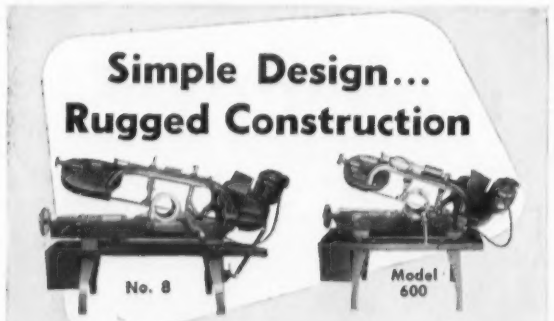


it from 10 to ¼-per cent moisture content without harm. Used for pharmaceutical and chemical powders, dryer will not discolor the product by overheating. Stainless steel construction prevents product contamination.

Feeder receives 300-lb batches from a centrifuging machine, smoothes the surges and spreads the material to a uniform 2½-in. mat across surface of dryer. Conveying speed is variable from 4 to 6 fpm with retention period for drying of 2½ minutes. Steam coils preheat the drying air which is forced through the screen and vibrated mat of material. Inlet temperature at discharge end is 150° F, while maximum temperature at wet end is 200° F. Made by **Carrier Conveyor Corp.**, 299 N. Jackson St., Louisville 2, Ky.

For more details circle NED-573 F7 on enclosed inquiry slip

Simple Design...
Rugged Construction



WELLS HORIZONTAL
METAL CUTTING BAND SAWS

The simple design and rugged construction of every "Wellsaw" didn't just happen. We planned it that way! Over 30 years of specialized band saw experience and know-how is your assurance of the quality and service with each machine produced by Wells Manufacturing Corporation.

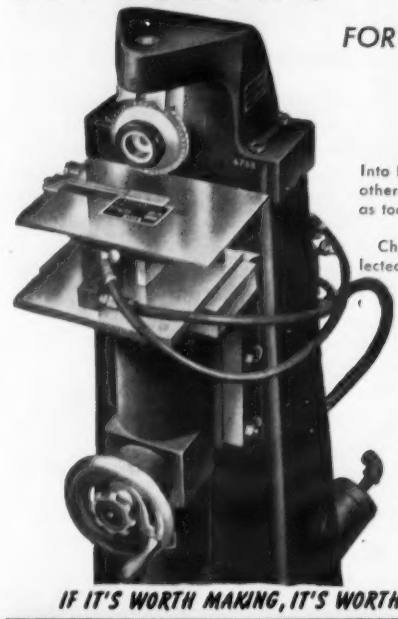
There is a Wells Saw of the right style, capacity and speed to do a better, more economical job for you. Wells Saws will deliver long, dependable service. Operating and maintenance costs are very low. See your Wells Distributor.

Wells

The Pioneers of Horizontal
METAL CUTTING
BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 Harding St. • Three Rivers, Mich.

For more details circle NED-574 F7 on enclosed inquiry slip

PNEUMATIC POWER
LETTERING PRESS



FOR STAMPING
SELECTIVE
LETTERING

Into DIE components and other metal parts such as tools, gauges and jigs.

Characters are selected by turning dial and are stamped into part when foot pedal is depressed. Spacing of characters is automatic.

Requires 20 to 40 pounds line pressure. Write today for further information on this or any other member of the famous GTS line.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

For more details circle NED-575 F7 on enclosed inquiry slip

COATED for resistance to acids, alkalies, caustics, wet or dry chemicals.

GRANET

SAFETY . . . protection against rough surfaces, abrasive materials, sand, brick, etc.

PRICED competitively for maximum wear per dollar—tough, strong and long lasting.

SHAPED in the palms and fingers for worker efficiency and comfort.

GRANET GLOVES for Industry

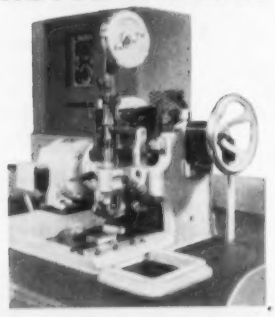
STOCKED for your convenience by industrial distributors from coast to coast. Write for name of nearest one.

EXCLUSIVE super-sensitive controlled production for high grade built-in quality.

THE GRANET CORP.
15 Loring Drive
Framingham
Mass.

For more details circle NED-576 F7 on enclosed inquiry slip

PRECISION WELD
ELECTRICAL CONTACTS
AUTOMATICALLY



Electrical contacts are welded on leaf springs and other instrument components at rates of from 1200 to 2400 per hour on Sheffield Automatic Welding Machines.

Size, shape and location of the welds are all under precise control.

Weld metal may be gold, silver, platinum, palladium, iridium and others.

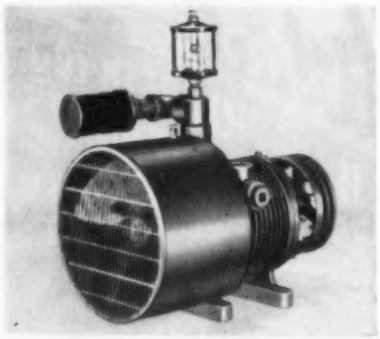
WRITE FOR DATA on the point and disc type welding machines to The Sheffield Corporation, Dayton 1, Ohio, U.S.A., Dept. 13.

the SHEFFIELD corporation
manufacture and measurement for mankind

7726

For more details circle NED-577 F7 on enclosed inquiry slip

BIG NEW fan-cooled rotary model 4565



GAST ROTARY VANE AIR PUMPS

deliver 45 C. F. M. — double the capacity of previous models!

AS COMPRESSOR: 45 c.f.m., to 20 p.s.i.g. continuously with 5 h.p. at 1750 r.p.m.

VACUUM PUMP: 45 c.f.m., vac. to 25 in. hg. with 3 h.p. motor, 35 c.f.m. with 2 h.p.

Write for Bulletins 557-VP

Now ..... bigger-volume utility for original equipment or plant use! Built as either Compressor or Vacuum Pump for continuous, heavy-duty service. Air-cooled by 10" diameter pitch fan. Cowl-guard directs air—eliminates water-cooling headaches.

Long-lived, efficient 5-vane rotary design — positive, pulseless air delivery — needs no tank. Easy-to-mount v-belt drive. Three rows of ball bearings. Weight only 92 lbs.! Many applications.

Gast Manufacturing Corp., P.O. Box 117-R, Benton Harbor, Mich.

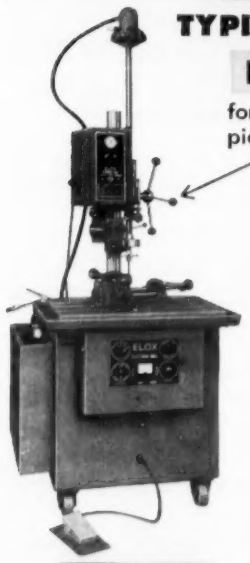
Original Equipment Manufacturers for Over 25 Years

GAST ROTARY
• AIR MOTORS TO 4 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
See Our Catalog in Sweet's Product Design File

For more details circle NED-578 F7 on enclosed inquiry slip

yours for the asking

a simple, economical way to salvage parts made defective by broken taps, drills, reamers or engineering changes



TYPICAL EQUIPMENT

Elox M-700 Electron Drill

for the plant with 10 or more pieces of scrap per day.

$1950.00

Elox M-200 Portable Electron Drill

for the plant with less than 5 parts per day.

$495.00

Sample Job

This stainless steel valve body was valued at $45 when a #10/40 tap broke in one of the holes. Using a .080 copper electrode an Electron Drill removed the tap in 5 minutes!

Incidentally . . .

It took an operator 20 minutes to tap 4 base holes in this same valve.

When the operator saw how fast and easy broken taps could be removed, he reduced his machining time to 5 minutes per piece.

Elox Electron Drills are also used in many forms of die salvage . . . drilling bolt holes, tapered pin holes, coolant holes, lubricant holes . . . in the fully hardened state.

We believe we can save you time and money — Why not write

elox* corporation of michigan

*T. M. Reg.

1838 N. Stephenson H'wy., Royal Oak 3, Mich.

For more details circle NED-579 F7 on enclosed inquiry slip

CONTAINER RECLAIMING KIT
ink blocks out old stenciling

Used corrugated boxes, wood crates, cloth sacks and metal drum heads can be reclaimed by use of the Block-Out kit. Also used to cover incorrect markings, old stenciling, crayon marks and labels, the kit contains 1 gal of Block-Out ink, a container which holds 1 qt of ink and a 3-in. bristle brush under its chimney type cover and 1 qt of Block-Out thinner for the ink and cleaning the brush. Ink is a one-coat tan obliterating fluid applied by brush or roller. It dries immediately, leaving a surface suited for any type of marking. Made by **Diagraph-Bradley Industries, Inc.**, AA Div., Box 269, Herrin, Ill.

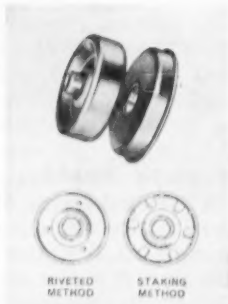
For more details circle NED-580 F7 on enclosed inquiry slip

CORROSION RESISTANT FANS
made of resin bonded glass fiber

Chemical resistance to a wide variety of acids, salts, gases, organic materials and other corrosives at temperatures up to 225° F is claimed for type FG fans. They are made of impact resistant resin bonded glass fiber and will not support combustion. Integral stainless steel studs are molded in for attachment to the bearing stand. All exposed parts of balanced steel rotor are encased in glass fiber. Standard capacities up to 34,000 cfm, static pressures to 10 in. and inlets from 6 to 32 in. are available. Made by **Buffalo Forge Co.**, 215 Mortimer St., Buffalo, N. Y.

For more details circle NED-581 F7 on enclosed inquiry slip

CONVEYOR BEARINGS & WHEELS
with or without ball bearings



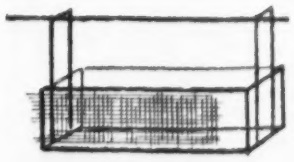
Usable in conveyor systems and materials handling devices, line of bearings and wheels includes complete range of sizes. Wheels, with ¼-in. round cone hole size, are available with single or double row ball bearings or without ball bearings. Outside shells are bright steel, zinc plated steel or aluminum. Bearings in either riveted or staked type have cone hole size to fit ⅜ or 7/16-in. hex. Made by **Frantz Mfg. Co.**, Dept. WB-1, Sterling, Ill.

For more details circle NED-582 F7 on enclosed inquiry slip

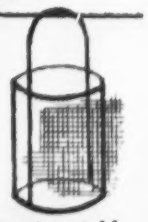
JELLIFF BASKETS

for ALL INDUSTRIAL USES –

• Dipping
• De-greasing
• Pickling
• Plating
• Anodizing
• Heat-Treating
• Bulk Handling
• Storage



ANY SIZE, SHAPE, WEAVE AND ALLOY



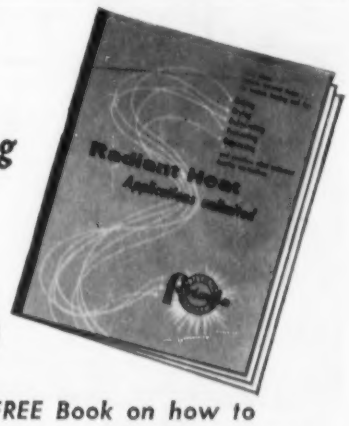
SERVING INDUSTRY FOR 76 YEARS

Send Specifications for an estimate, Department 11

THE C.O. JELLIFF MANUFACTURING CORP.
Southport • Connecticut • USA

For more details circle NED-583 F7 on enclosed inquiry slip

Here's the answer to your baking operation problems!



Send for this FREE Book on how to cut costs with Fostoria Radiant Ovens

You will refer to this handy reference book on infrared industrial baking equipment time and again! It shows you how you can apply the money-saving advantages of Fostoria Radiant Ovens on baking, drying, dehydrating, degreasing and preheating . . . tells how you can speed up production, improve product quality, reduce operating and maintenance costs.

Typical case histories (detailed and illustrated) of plants such as yours prove the amazing savings of Fostoria Ovens. Your *free* copy of "Applications Unlimited" is waiting. Send for it today.

INFRA-RED fostoria SYSTEM

9512

Components to Complete Ovens
THE FOSTORIA PRESSED STEEL CORP.
Dept. 608 • Fostoria, Ohio

For more details circle NED-584 F7 on enclosed inquiry slip

45-ton Grinder installed on Air-Loc stays level to .0005"

Norton Grinder on 26 Air-Loc mounts keeps its precision level. Vibration absorption by mounts eliminates chatter marks on finished work.

Permanent precision installation is yours with patented AIR-LOC mounts that:

Resist oil, water and alkali — *Hold* machines in place
Permit easy shimming — *Reduce* transmitted vibration
Eliminate need for bolts or cement

— and Air-Loc mounts can be re-used when you move machines.

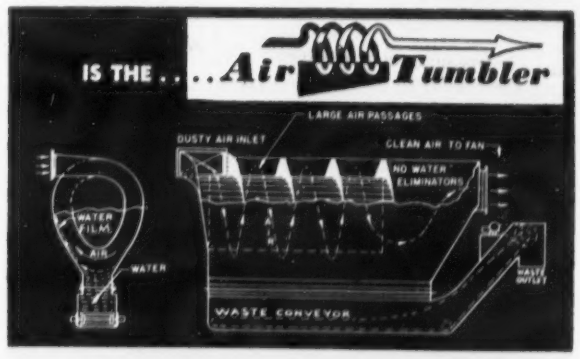
Air-Loc samples will be sent promptly if you write direct to the manufacturer:

AIR-LOC DIVISION
CLARK, CUTLER, McDERMOTT CO., FRANKLIN, MASS.

For more details circle NED-585 F7 on enclosed inquiry slip

The MASTER of DUST in INDUSTRY

IS THE . . . Air Tumbler



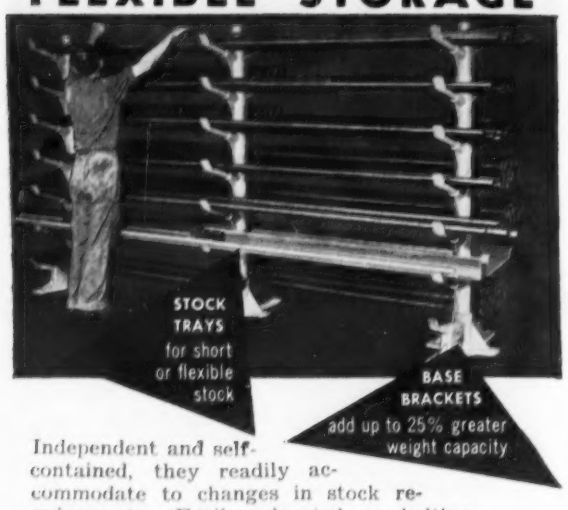
HIGH EFFICIENCY
WITH
LOW WATER EVAPORATION

Write For Bulletin No. 551

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

For more details circle NED-586 F7 on enclosed inquiry slip

FLEXIBLE STORAGE



Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, warp, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

▲ For more details circle NED-587 F7 on enclosed inquiry slip ▲

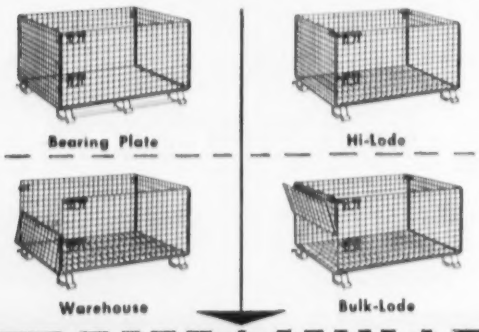
what's your..?
CARRYING CHARGE

6,000 pound unit loads are efficiently and economically handled in USP Palletainers—and, empty Palletainers can be "flat-folded" for space savings and lower return rates.

What's it costing you to handle materials to and from production or assembly lines, in and out of storage, truck loading and transporting? There is an *easy way* . . . a practical, economical way with versatile USP Palletainers.

Palletainers have simplified materials handling for thousands of plants in scores of industries. And, these practically indestructible containers can save you valuable time and money both in and out of your plant. Whether you're processing, storing or distance-hauling, Palletainers provide the practical answer. Available in four basic types and a broad range of practical standardized sizes. They're engineered for safer handling, ceiling high stacking, faster 8-way entry for fork truck plus the advantages of content visibility for speedy inventory.

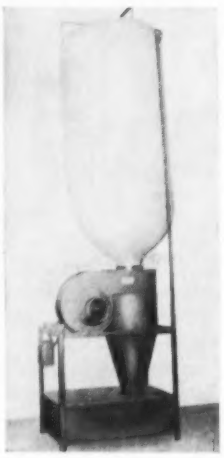
For Full Information on Palletainers...
including names and locations of users, or for obligation-free consultation on Palletainer application in your plant—write, wire or call Union Steel, today!



USP PALLETAINERS
UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

▲ For more details circle NED-588 F7 on enclosed inquiry slip ▲

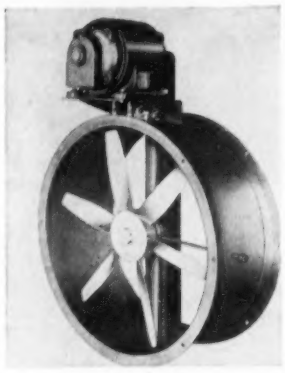
DUST COLLECTOR
has 2405 cfm air capacity



Outside exhaust outlet is not required by this 20C30 air recirculating type dust collector. Heavier particles are separated from the air within the unit by a cyclone separator and precipitated into a bin located in the base. Air is exhausted into a 3 x 7½-ft bag which filters out remaining dust and releases dust-free air into work area. Unit has 2405 cfm air capacity and dust storage capacity of 6 cu ft. Used in pattern, model and small woodworking shops, collector can be useful in buffing and grinding operations as well as in the chemical industry. Made by **Aget Mfg. Co.**, 1396 E. Church St., Adrian, Mich.

▲ For more details circle NED-589 F7 on enclosed inquiry slip ▲

EXHAUST & DUCT FANS
direct and belt drive models



Line of exhaust fans includes direct drive models that can be mounted horizontally or vertically. They are equipped with speed control switches and inlet guards and shutters. Belt drive fans are driven at slow speed to attain low noise level. They have enclosed motors with ball bearing construction and are designed for continuous use. Belt drive duct fans are suited for spray booth, industrial ventilation and air exhaust. They have standard duct diameters, wide choice of air capacities, cast aluminum blades and open motors as standard. Drive and motor are isolated from the air stream. Mounting can be in any position. Entire line is offered with single or three-phase motors in standard voltages and frequencies. Made by **Peerless Electric Co.**, Fan & Blower Div., 1401 W. Market St., Warren, O.

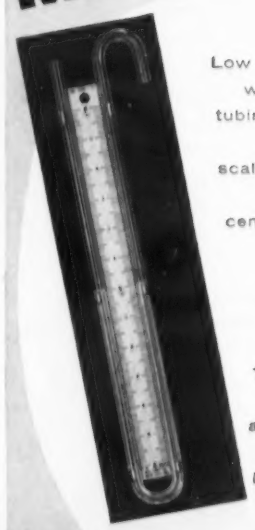
▲ For more details circle NED-590 F7 on enclosed inquiry slip ▲

Magnetic Amplifiers

Litton Industries, Maryland Div.—Data and specifications on 400 and 60-cycle magnetic amplifiers is content of illustrated 14-page catalog. Wiring diagrams and characteristics are given for each unit. Power outputs range from 1.5 to 10 w. Also covered are transfer networks and a vibration testing machine.

▲ For more details circle NED-591 F7 on enclosed inquiry slip ▲

Dwyer FLEX-TUBE MANOMETERS
SERIES 1225



Low cost manometers of heavy walled unbreakable Butyrate tubing. Graduations and figures are silk-screened on fibre scale and protected by lacquer coating. Scale is on center line of tube, eliminating parallax errors, and is adjustable vertically for accurate zero adjustment.

Two groups: 1225 (conventional U-tube) and 1225U (U-tube with an inverted U at top for hose connection). Both groups in 12", 24" and 36" lengths. Write for Bulletin D-11.

F. W. DWYER MFG. CO.
P.O. BOX 373 Q MICHIGAN CITY, INDIANA

▲ For more details circle NED-592 F7 on enclosed inquiry slip ▲

Which IS THE PICTURE IN YOUR PLANT?

SABIN BARREL TRUCK

Sabin ONE MAN way of handling barrels and drums saves labor.

This method is simple. You run truck up to container, hook on at top and pull back on handle to pick up loads weighing as much as 800 pounds.

Third Wheel Feature gives better balance—and makes handling safer, too.

WRITE FOR BULLETIN NO. 48-A
Sales representatives wanted in several territories.

THE SABIN MACHINE CO.
6536 Carnegie Ave.
CLEVELAND 3, OHIO

▲ For more details circle NED-593 F7 on enclosed inquiry slip ▲

YOUR PAINT SPRAY BOOTH CAN BE MORE EFFICIENT, MORE ECONOMICAL!

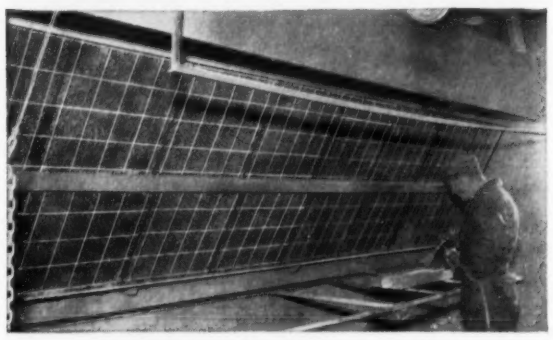


Photo Courtesy Burnaby Venetian Blinds, Ltd., Winnipeg, Canada

. . . With the many advantages of RP Paint Arrestors

Easily and economically installed, RP Paint Arrestors brought the advantages of minimum floor-space and down-time requirements, plus the most effective method of trapping paint overspray to this booth. Your plant, too, can benefit with RP Paint Arrestors. Write for complete information.

WRITE FOR FREE BOOKLET
Helpful, informative suggestions to solve your paint spray booth problems. Write Today.

RESEARCH PRODUCTS CORPORATION
DEPT. 32, MADISON 10, WIS.

RP . . . PRODUCTS OF RESEARCH

▲ For more details circle NED-594 F7 on enclosed inquiry slip ▲

1882 - 1957 **75** LITTLEFORD CINCINNATI FABRICATING SPECIALISTS

LITTLEFORD

ELECTRONIC CONTROL cabinet fabricated complete by Littleford

layout
shearing
punching
bending
flame cutting
assembly
welding
stress relieving
sand blasting
machining

Littleford's complete, top quality fabricating saves your time and facilities for your own specialty. Send us your blueprints for estimates on your requirements.

LITTLEFORD BROS., inc.
Dept. LB-235
453 E. Pearl St.,
Cincinnati 2, Ohio

▲ For more details circle NED-595 F7 on enclosed inquiry slip ▲

Bellows HAN-D-AIR CYLINDER

Single Acting Model Illustrated

- SAVES TIME in jig and fixture operations
- SAVES TIME in parts positioning
- SAVES TIME in parts ejection

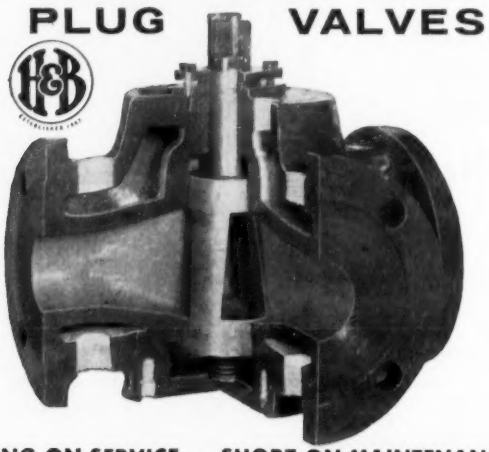
The Bellows HAN-D-AIR is a small (1⅛" bore), rugged air cylinder for scores of *little* jobs — clamping, feeding, ejecting parts, etc. Choice of single and double acting models in strokes of 1", 2", 3", and 4". Lightning fast, its pressure always uniform, it does the job faster, better, and far cheaper than it can be done by hand. Its compact design makes multiple installations easy. The threaded piston rod connects quickly to work loads. Thrust equals air pressure applied (175 psi max.). Port size: ¼" pipe tap.

FOR FULL DETAILS WRITE DEPT. NED 657 1306A

The Bellows Co.
Akron 9, Ohio

For more details circle NED-596 F7 on enclosed inquiry slip

Jacketed Spring Loaded PLUG VALVES



LONG ON SERVICE . . . SHORT ON MAINTENANCE

H & B's new fully jacketed spring loaded plug valves feature an inverted tapered plug inserted and lapped into the housing from the bottom of the valve—then spring loaded. The spring wedges the plug to a perfectly tight seal, eliminating troublesome leaks. Easy to operate—no big handwheel . . . no freeze . . . no "breaking loose" necessary. Easy to clean. Made in two port or multi port design, with any special stop arrangement desired.

Available in 2-way or straight, 3-way or angle, also air cylinder operated—all sizes and types. Bulletin J-57 sent on request.

HETHERINGTON & BERNER INC.
715 KENTUCKY AVE. INDIANAPOLIS 7, IND.

For more details circle NED-597 F7 on enclosed inquiry slip

if

IF larger motor is necessary to start machine than required to run it.

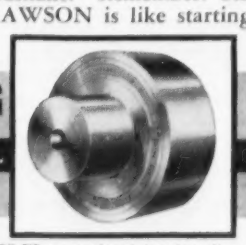
If special motors or controls are used because of heating problems due to frequent starting or long starting periods because of high WR^2.

If shock start will break mechanism or work and a softer start is required.

If dual drive with automatic coupling of standby prime mover is required.

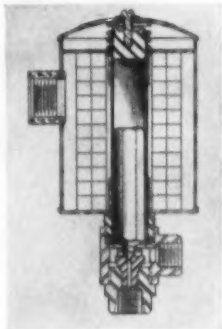
IF your answer is yes to any of these questions you need a RAWSON COUPLING, the centrifugal clutch that is as "simple as a handshake." Remember: Starting a load with the new RAWSON is like starting a motor without any load.

RAWSON COUPLING DIVISION
O. S. WALKER CO., Inc.
WORCESTER, MASS.



For more details circle NED-598 F7 on enclosed inquiry slip

STAINLESS STEEL VALVES for corrosive gases and liquids

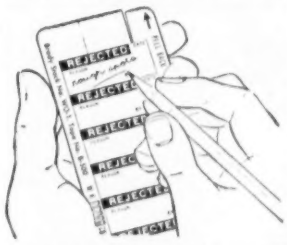


Only type 316 stainless steel and Teflon are in contact with the fluid flowing through All-316 stainless steel valves. Suited for corrosive gases and liquids, they are of packless normally-closed, angle pattern type. Greenclad, waterproof molded coils are used for temperatures to 250° F and silicone insulated coils for higher temperatures. Explosionproof housings can be furnished. Valves are made in ⅛, ¼ and ⅜-in. pipe sizes with ports from 1/16 to ¼-in. Made by **J. D. Gould Co.**, Dept. D, 4707 Massachusetts Ave., Indianapolis 18, Ind.

For more details circle NED-599 F7 on enclosed inquiry slip

WRITE-ON LABELS in 18 self-adhesive types

Self-sticking labels which take pen, pencil, ball point or typewritten information are usable for inspection, assembly, job status, calibration and maintenance information. Labels are mounted on 9-in. Blue Streak dispenser cards which function as writing boards as well. They are stocked in vinyl cloth and 0.003-in. aluminum foil types, with latter recommended for humid or oily atmospheres. Stock legends like "Rejected" or "Hold" are furnished on the vinyl cloth type. Sizes range from ¼ x 1½ in. to 1½ x 1½ in. Made by **W. H. Brady Co.**, Dept. NED, 727 W. Glendale Ave., Milwaukee 9, Wis.



For more details circle NED-600 F7 on enclosed inquiry slip

PRECISION BORER employs oil displacement feed

Small, compact model S-6 Hydro-Borer can bore within 0.0003-in. tolerance and produce a finish of 30 micro-inches or better. It employs an oil displacement feed, rate of which is variable in two ranges: from 0.002 to 0.004-in. and from 0.0035 to 0.007-in. Spindle diameter is 1¼ in. with a No. 2 Morse Taper supplied either concentric or eccentric. Latter taper allows increasing bore diameter total of 0.014-in. in increments of 0.001-in. without resetting tool bit. Borer weighs only 75 lb and mounts easily on fixtures or assembly jigs. Made by **Greenlee Bros. & Co.**, 2241 Mason Ave., Rockford, Ill.

For more details circle NED-601 F7 on enclosed inquiry slip

only 53¢ a day to run an L-S Model J!

At National Cold Storage Co., Brooklyn, N. Y., . . . a fleet of 12 L-S Model "J" Electrics helps move up to 1 million lbs. of freight daily — *yet costs only 53¢ per truck a day to operate and maintain!**

Clean, silent, fumeless . . . the Model "J" is ideal for indoor work. Weighs only 4100 lbs. Easily clears 6' doorways. Lifts 2000 lb., 48" long loads in narrow 7' aisles. Write to:

L-S LEWIS-SHEPARD®
The most complete line of materials handling equipment anywhere

The "MASTER" Line 176 Walnut St., Watertown 72, Mass.

**Average cost for operating and maintenance, including battery charging.*

For more details circle NED-602 F7 on enclosed inquiry slip

Get this new fact-filled booklet on general purpose SILICONE RUBBER...

FREE sample chip of SILASTIC with booklet

first in silicones

DOW CORNING CORPORATION
MIDLAND, MICHIGAN

WRITE TODAY.. DEPT. 5418 a

For more details circle NED-603 F7 on enclosed inquiry slip

NEW!

Milwaukee ½-inch "shorty" Hole Shooter

all ball bearing!

Meet the close-quarter champ! Weighing only 9¼ lbs . . . only 12¼" long, Milwaukee's Model 612 delivers ½ hp *at the chuck*, . . . 8 foot pounds of torque. No other "shorty" drill gives you so much power!

Every bearing a ball bearing! Gears and pinions heat treated alloy steel . . . helical cut for smooth, quiet power transmission. Spade handle directly—in-line→ with chuck for easier drilling . . . straighter, truer holes. Chuck is ½-inch Jacobs Industrial.

And, here's the best news of all! The Model 612—the world's most powerful ½-inch "shorty" drill—sells for only **$65**

for free demonstration see your Milwaukee Distributor or, Write for Bulletin D-12

The world's most powerful ½-inch "shorty" drill

Compare

"SHORTY" DRILL COMPARISON CHART*

Feature	Milwaukee Model 612	Brand "A"	Brand "B"	Brand "C"
Horsepower	.55	.244	.335	.282
Amps	6	3.5	5	4.5
Full Load Torque (Ft. Lbs.)	8	4	5	4
Spindle Speed (RPM)	600	450	500	550
Weight (in lbs.)	9¼	9½	8	9¼
Price	$65.00	$68.00	$68.00	$65.00

**based on accepted laboratory tests.*

A 7-9183

MILWAUKEE ELECTRIC TOOL CORPORATION
5320 W. State St., Milwaukee 8, Wis.
Canadian Representative:
Matthew Moody & Sons Co., Montreal

For more details circle NED-604 F7 on enclosed inquiry slip

DUO Safety

ALL ALUMINUM LADDERS

. . . GOOD FOR A LIFETIME OF DEPENDABLE SERVICE

Type F—Extension Ladder

Here's the ideal ladder for all types of plant maintenance work. The strength, lightness and non-rust qualities of aluminum combine with the most exacting engineering and manufacturing processes to provide a ladder that will deliver a lifetime of safe, dependable service. There are Duo-Safety aluminum ladders in all types . . . step, folding, extension. Your inquiry will receive prompt attention.

WRITE FOR FREE CATALOG

DUO-SAFETY LADDER CORP.
809 9th St., Oshkosh, Wis.

For more details circle NED-605 F7 on enclosed inquiry slip

MAKE YOUR OWN CRANE...
...at a NEW LOW COST!

Handle loads up to 2000 lbs., SAFELY, easily . . . Buy crane beam locally — we furnish the rest . . . A pair of self-aligning, ball bearing Flexo-Crane trucks cost only $119.00
Simple instructions come with shipment.

Complete Flexo-Crane, with hoist and accessories, is also economically priced. To get full details, ask for —
BULLETIN F-114

The Abell-Howe Line includes a wide range of overhead cranes monorails, hoists and accessories.

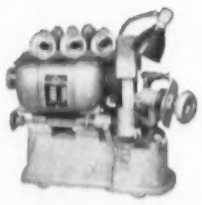
ABELL-HOWE COMPANY 7747 VAN BUREN ST. FOREST PARK, ILL.

For more details circle NED-606 F7 on enclosed inquiry slip

STOP WASTING DRILLS!

NEW LIFE FOR OLD DRILLS WITH BLACK DIAMOND DRILL GRINDER!

FOR DRILLS UP TO ¾" . . .
The BLACK DIAMOND Drill Grinder restores an old drill to like-new precision sharpness . . . in 10 seconds! Any inexperienced man (or woman!) is an expert grinder with this unit. Both lips ground at once . . . web-thinning equally simple! Pays for itself many times over!



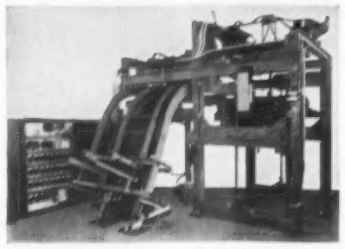
FOR DRILLS UP TO 2½" . . .
The WORCESTER Drill Grinder (now manufactured by Black Diamond) sharpens 2, 3, or 4-lip drills, flat, flat twisted or chucking, up to 2½. Clearances are easily and instantly changeable, feeding is controlled by micrometer adjustment

FREE BULLETIN
Get all the facts! 4 page illustrated bulletin gives complete story. Write Today!

BLACK DIAMOND
SAW & MACHINE WORKS 72 NORTH AVE. NATICK, MASS.

For more details circle NED-607 F7 on enclosed inquiry slip

TUBE & BAR STACKER automatically handles stock from machine to the storage rack



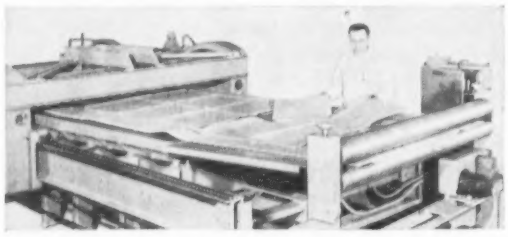
This automatic stacker is designed to handle either tubes or bars from a cut-off machine and stack them in a storage rack, ready for delivery to an assembly line. Operation is under full control of panel board that houses transformer, switches, relays and controls.

As each tube or bar is released by the cut-off machine, it is picked up by the stacker, assembled into a layer, and the layer is transferred to a rack. Overhead carriage and lift table assures even, straight layers of tubes in rack which is pushed from lift table automatically when full and replaced by an empty rack. Entire operation is synchronized to assure full-capacity operation of cut-off machine. Rack lowers as each layer of tubes is deposited. Mechanical drive assembly consists of ball bearing nut and screw driven by an electric motor. Made by **Spurgeon Co.**, Dept. A, 23501 Hoover Rd., Van Dyke, Mich.

For more details circle NED-608 F7 on enclosed inquiry slip

AUTOMATIC DIE CUTTER cuts parts from 72 x 66-in. roll stock in automatic sequence

Continuous die cutting of foam rubber and cloth-backed parts from roll stock is performed by this automatic roller die cutter. Two 72-in. power driven

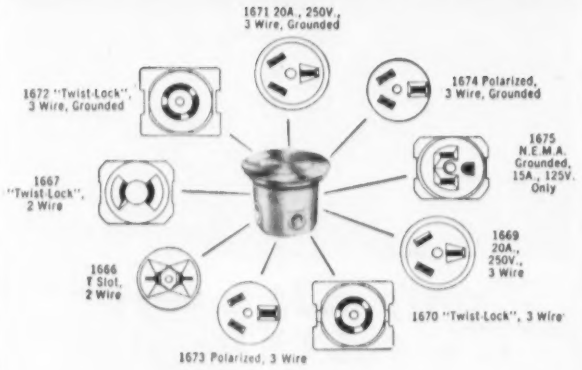


pinch rolls pull a predetermined length of stock onto the machine. Once stock is positioned over the dies, the cutting roll traverses the bed and presses the stock against the die, thus making the cut. Entire sequence is automatic.

Each time the operation is repeated, the rear pinch rolls pull the die cut stock from the machine at the same time they are pulling new stock over the die. Speed is preset by the operator. Pinch rolls are powered by a Dyna-Brake motor and controlled by a lineal footage timer. Cutting roll is actuated by 80-psi air. Machine bed size is 72 x 66 in., with an 84 x 72-in. model scheduled for production. Made by **Falls Engineering & Machine Co.**, 1734 Front St., Cuyahoga Falls, O.

For more details circle NED-609 F7 on enclosed inquiry slip

NEW! T&B floor box receptacle combination to fit all plugs and match all circuit wiring



Now you can save time, save installation money and increase safety — all these T&B receptacles fit all T&B floor boxes eliminating special boxes, special adapters and make-shift arrangements.

See your local T&B distributor for full information, or write:

THE THOMAS & BETTS CO. Incorporated
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada

For more details circle NED-610 F7 on enclosed inquiry slip

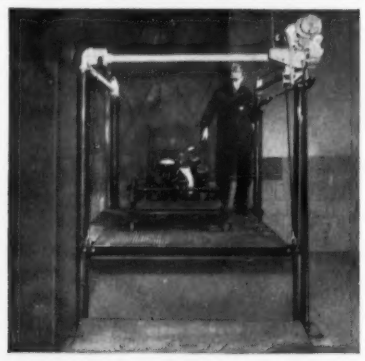
REVOLVATOR GO-GETTER The MOST COPIED LIFT TRUCK On The Market

FOR YOUR CONVENIENCE . . . Illustrated in this index are basic types of both Red Giant hand lift and Go-Getter electric lift trucks. Select the type best suited to your operation.

REVOLVATOR CO.
8732 TONNELLE AVE., NORTH BERGEN, N. J.

For more details circle NED-611 F7 on enclosed inquiry slip

RAISE AND LOWER HEAVY LOADS... QUICK AND EASY



WITH GLOBE Electro-LOADERS

Ramps, stairs, make-shift inclines are eliminated; trucks, trailers, rail cars are conveniently and safely loaded when a Globe Electro-Loader is on the job.

For permanent, temporary, or portable use. Installed in a few hours on any paved or wood surface. Only four base plates to anchor. Or mounted on casters for full mobility if desired.

Clearance of 6'11" under torque tube permits large loads and use of most fork trucks. Lifting capacity is 6000 lbs.

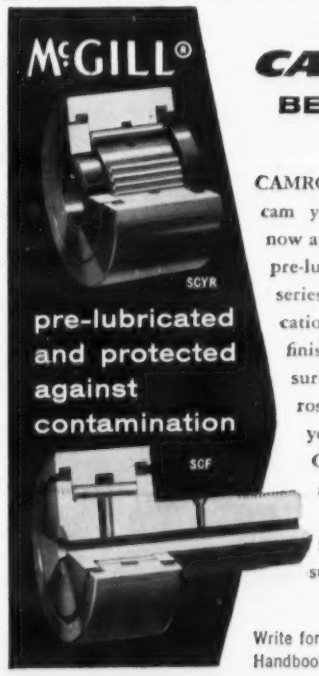
Write for complete information (Form 1-202) Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

NED-711-EL

GLOBE Electro-LOADER
PLANTS: DES MOINES—PHILADELPHIA

For more details circle NED-612 F7 on enclosed inquiry slip

McGILL®



pre-lubricated and protected against contamination

sealed CAMROL BEARINGS

CAMROL cam follower and cam yoke roller bearings are now available in the sealed and pre-lubricated SCF and SCYR series for your critical applications. A black ferrous oxide finish protects all external surfaces from rust and corrosion. For stud-, shaft-, or yoke mounting use sealed CAMROL bearings to avoid frequent re-lubrication and contamination in cam action or guide and support roller applications.

Write for helpful bearing Handbook No. H-54-B

McGILL® *precision needle bearings*

McGILL MANUFACTURING CO., INC.
101 N. LAFAYETTE ST. VALPARAISO, INDIANA

For more details circle NED-613 F7 on enclosed inquiry slip

the ONLY PORTABLE NIBBLER that CUTS METAL Without Distortion!

WRITE • PHONE • WIRE for complete information

FENWAY MACHINE COMPANY, INC.
Edgemont & Clementine Sts. Philadelphia 34, Penna.

Pat. #2278174 • #7278311 • #2535631

For more details circle NED-614 F7 on enclosed inquiry slip

Whatever You Need in WIRE SHAPES and FORMS ...ask SOMMER!

Ask Sommer first for whatever you need in precision wire parts or products. We have complete equipment to handle your job from start to finish.

We offer finest facilities for automatic fabrication, flattening and punching, threading, spot and butt welding.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome and mill finishes —in both barrel and fully automatic equipment.

We make our own tools, saving time and money for you.

Tell us your needs. Send sample, blueprint or drawing. We will submit recommendations and quotations promptly.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

For more details circle NED-615 F7 on enclosed inquiry slip

For better products
LEAKPROOF...CUSHIONED
TUFF-TITE FASTENERS

Undercut of Tuff-Tite fastener head . . .
. . . confines and controls flow of conical neoprene washer
. . . so washer seals the hole and cushions the fastener head!

Now you can • prevent leaks at fastener holes
• protect fine finishes from fastener damage
• stop vibration noises and squeaks

Leakproof, non-marring, shock and squeak absorbing! If you need these fastening advantages, you need National Tuff-Tite fasteners.

Standard National Tuff-Tite fasteners are available in hexagonal, pan, round and truss head styles for screw diameters No. 6 to 3/8" inclusive . . . maximum over-all length 1½". Standard fastener types are wood screws, self-tapping screws, thread cutting screws, machine screws and stove bolts. Tuff-Tite fasteners are pre-assembled with neoprene washers.

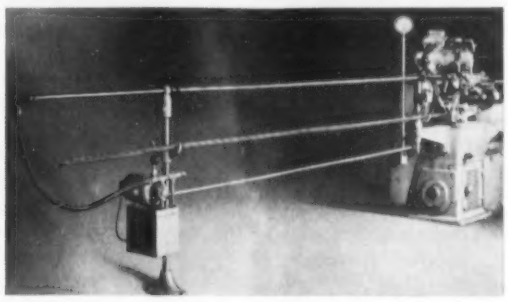
Washers are molded of neoprene which has a durometer hardness of 85 to 95. *Write for the Tuff-Tite fastener folder describing this line in detail.*

THE NATIONAL SCREW & MFG. COMPANY
CLEVELAND 4, OHIO
Pacific Coast: National Screw & Mfg. Co. of Cal.
3423 South Garfield Ave., Los Angeles 22, Cal.

For more details circle NED-616 F7 on enclosed inquiry slip

HYDRAULIC BAR FEED for single spindle screw machines

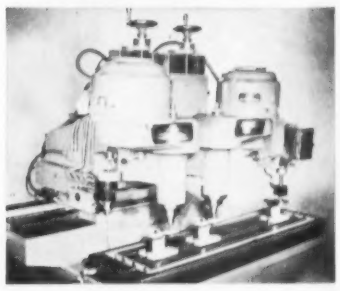
Short piston of improved model S Hydra-Lite hydraulic bar feed permits feeding of stock at high spindle speeds without stopping the spindle. Intended



for late model single spindle screw machines, it has a positive feed-out that assures length control within a few thousandths of an inch. Most satisfactory operation is obtained when a second operation clutch is used. Signal light shows when stock is about run out. Three available feeds handle 3/32 to 1¾-in. stock. Made by **Boyar-Schultz Corp.**, 2001 S. 25th Ave., Broadview, Ill.

For more details circle NED-617 F7 on enclosed inquiry slip

TWO-SPINDLE ROUTER tracer controlled unit affords spindle speeds of 130 to 11,750 rpm



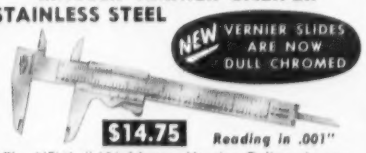
Wide variety of intricate internal and external contouring work can be performed on this automatic two-spindle Hydro-Router which is equipped with the Hydro-Magnetic tracer control. The Turchan three-dimensional tracing control can be added to provide combination of profiling and contouring. The Hydro-Magnetic tracer produces a closed 360-degree contour automatically through rotating, magnetized stylus which clings to template.

Each spindle has separate 2-hp motor and provides speeds from 130 to 11,750 rpm for handling heavy or light metals as well as grinding work, if desired. Each spindle is vertically adjustable through lead screws. Hydraulically actuated vertical slide provides four turret stop positions for contouring at various depths. Large work pieces can be set up to over-hang the 56½ x 14½-in. table while ends or sections are machined. Longitudinal, cross and vertical ranges are 24, 12 and 8 in. for single spindles, and 12, 12 and 8 in. for double spindle operation. Feed rates are 0 to 40 ipm. Made by **Turchan Follower Machine Co.**, Box 6055, Dearborn 9, Mich.

For more details circle NED-618 F7 on enclosed inquiry slip

SCHERR PRECISION MEASURING TOOLS

MAUSER VERNIER CALIPER STAINLESS STEEL

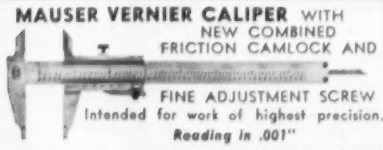


NEW VERNIER SLIDES ARE NOW DULL CHROMED

$14.75 Reading in .001"

The NEW #101 Mauser Vernier Caliper is now made entirely out of Stainless Steel - and features double length Vernier, new gib construction of slide, quick-acting cam lock, etc. Measuring cap. 5-5/16" outside, inside and depth.

MAUSER VERNIER CALIPER WITH NEW COMBINED FRICTION CAMLOCK AND FINE ADJUSTMENT SCREW



Intended for work of highest precision. Reading in .001"

Vernier Caliper #1407. Code GINDO $25.50
Height Gauge #1408. Code GINFU $33.50
Request Illus. Brochure

UNIVERSAL BEVEL PROTRACTOR with LOUPE

Hardened 6" blade. "Lustra-Chrome" finished measuring face.
Special Chrome Steel $22.50
Stainless Steel $25.50
Reading in 5 min. of arc

NEW MICRO PROJECTOR $375.99 BASE PRICE

GEO. SCHERR CO., INC.
200 ND LAFAYETTE ST. • NEW YORK 12, N. Y.

For more details circle NED-619 F7 on enclosed inquiry slip

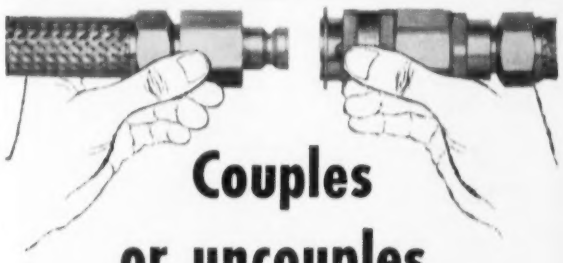
SCREEN TROUBLE-MAKERS OUT OF PIPELINES

Remove troublesome scale, grit, sediment from pipelines. Prolong the life of pumps, valves, traps, meters. Install *low-cost* Anderson Strainers. Sizes ¼" through 3". Pressures up to 250 p.s.i. Temperatures up to 450°F. Specials upon application. Prompt shipment from stock.

Write for FREE Bulletin 252, The V. D. Anderson Company, division of International Basic Economy Corporation, 1958 West 96th Street, Cleveland 2, Ohio.

ANDERSON STRAINERS

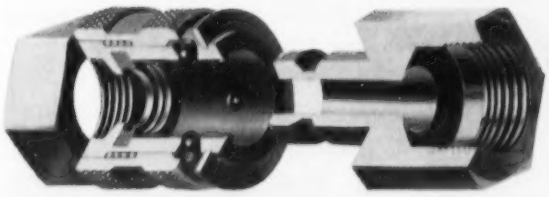
For more details circle NED-620 F7 on enclosed inquiry slip



Couples or uncouples in ONE second...without tools

Titeflex

Quick-Seal Couplings



No waiting! No reaching for tools! Absolutely leakproof—the higher the pressure the tighter the seal.

Titeflex Quick-Seal Couplings in a variety of alloys meet *every* need for controlling the flow of gases, liquids, lubricants. Choice of straight-through, single or double check-valve types. Complete range of sizes . . . from ¼" to 12" diameter.

Send for *new* Titeflex Coupling Catalog today. No charge, no obligation. Just mail coupon.

Titeflex

TITEFLEX, INC. (Industrial Products Division)
507 Hendee St. Springfield 4, Mass.

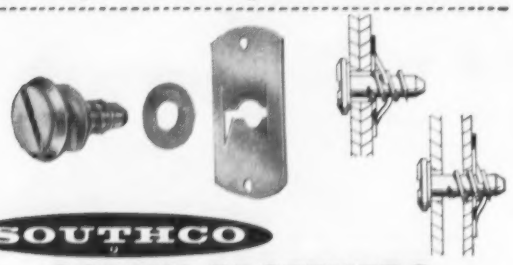
Without obligating us, please mail copy of new TITEFLEX Quick-Seal Coupling catalog.

Name _____
Title _____
Company _____
Street _____
City _____ Zone _____ State _____

For more details circle NED-621 F7 on enclosed inquiry slip

for quick attachment and removal . . .

through wide range of thickness

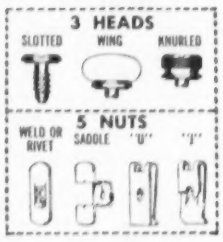


SOUTHCO

SCREW FASTENERS

Ample tolerance, inherent in Southco Screw Fastener design, permits use of one grip size for many jobs, simplifies stock requirements. "Floating" screw assembly eliminates alignment problems. Rugged, strong, no springs . . . easy to install.

Write today for free copy of 52 page Fastener Handbook. Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.



SOUTHCO FASTENERS LION

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For more details circle NED-622 F7 on enclosed inquiry slip

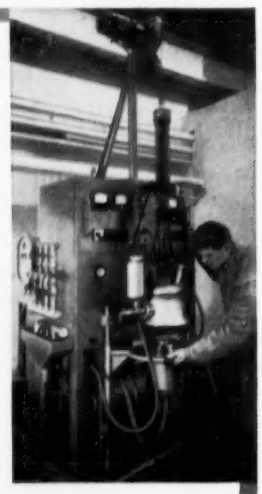
Process hard-to-handle metals

fast . . . in vacuum

Get *pure* vacuum melts—in "buttons" or ingots—of titanium, zirconium, tungsten, and other metals or alloys with high melting temperatures. In this Heraeus Vacuum Arc Furnace there can be no contamination from crucible or backstreaming oil vapors.

Get melts *fast*. A Roots-type mechanical pump (no oil seal) quickly pulls pressures down to 5×10^{-4}mm Hg, easily handles sudden gas bursts.

Write for complete details in Arc Furnace Bulletins.



Vacuum Arc Melting Furnace Model VA-L200H, smallest of a line of Heraeus Furnaces sold by CEC.

Consolidated Electrodynamics

Rochester Division, Rochester 3, N.Y.

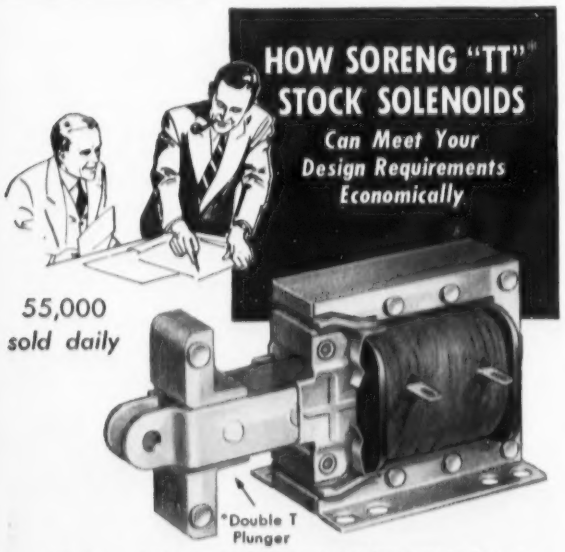
Formerly Consolidated Vacuum

OFFICES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

For more details circle NED-623 F7 on enclosed inquiry slip

HOW SORENG "TT"* STOCK SOLENOIDS

Can Meet Your Design Requirements Economically



55,000 sold daily

*Double T Plunger

All the exclusive custom features that have made Soreng a-c solenoids the most widely used in the world are embodied in the design of our stock line. One of our four basic types will probably fit your application . . . at the same time, you benefit from production run prices made possible through standardization.

For complete information write for Bulletin CF-124. It contains drawings, power curves, applications and other technical data.

CONTROLS COMPANY OF AMERICA

SORENG DIVISION

9577 Soreng Avenue • Schiller Park, Ill.

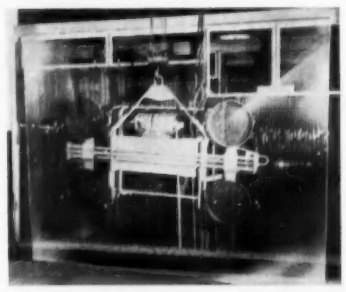
For more details circle NED-624 F7 on enclosed inquiry slip

SPEED TRANSMITTER
has pneumatic linear output

Speed of any rotating machinery is measured by the type 16A pneumatic speed transmitter which produces a pneumatic output linearly proportional to rotating speed. It operates on the force balance principle with magnetic actuation of a standard pnuematic circuit. The 3 to 15-psi feedback pressure developed in the device is received by an indicator, recorder or controller calibrated in units of speed. Small, easily installed transmitter has continuous air bleed to prevent dust and weather damage. Range is adjustable from 0 to 1600 rpm to 0 to 2400 rpm by an adjustment screw, and is extended to 0 to 320 rpm to 0 to 5300 rpm with optional speed changers. Instrument can be made to measure in either or both directions. Made by **Foxboro Co.**, 26 Neponset Ave., Foxboro, Mass.

For more details circle NED-625 F7 on enclosed inquiry slip

VACUUM LIFTERS
for safely handling plate glass



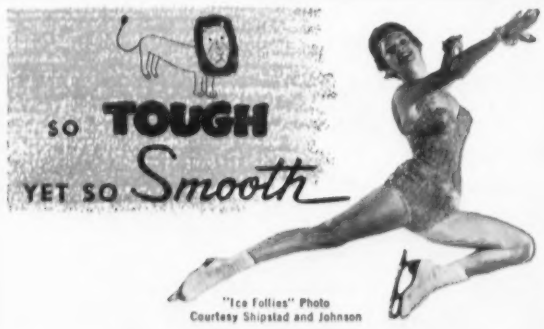
Self-contained four-cup vertical vacuum lifter has an integrally mounted vacuum pump and is ready to operate from crane or hoist once connected to a 110-v outlet. Its two lifting straps enable plate glass to be lifted lengthwise or widthwise with 8, 10 or 14-in. diameter cups. Cup centers are adjustable from 14 to 24 in. front to back and 36 to 60 in. left to right. Individual valves on each cup permit quick shut-off. A crane-suspended two-cup lifter is adjustable for handling 7 to 12-ft glass. Its frame is a built-in vacuum tank. A second vacuum tank and pump at ground level are mounted on wheels, but can be mounted on the crane. Made by **F. J. Littell Machine Co.**, Vac-U-Mation Div., Dept. 2-L, 4555 N. Ravenswood Ave., Chicago 13, Ill.

For more details circle NED-626 F7 on enclosed inquiry slip

Air Compressors & Vacuum Pumps

Bell & Gossett Co.—Graphite piston rings and skirts eliminate need for oil, making line of air compressors and vacuum pumps described in illustrated 12-page bulletin oilless in operation. Compressors for 35, 75 and 175 psi have capacities from 1.9 to 6.57 cfm. Continuous duty vacuum pumps have maximum vacuum of 27.5 in. and displacements from 2.7 to 6.57 cfm.

For more details circle NED-627 F7 on enclosed inquiry slip



"Ice Follies" Photo Courtesy Shipstad and Johnson

National Sanders are built for **TOUGH** operation on production lines. As they are vibrationless and easy to operate, they produce the *Smooth* surface so essential to a fine finish. These lightweight, powerful sanders can be used on wood, metal, plastic, felt, stone, and other surfaces. National makes a complete line of electric or air driven sanders with either straight-line or orbital action. The popular model 400 is shown below. Write for NEW folder today!

WITH ORIGINAL ORBITAL ACTION

NS

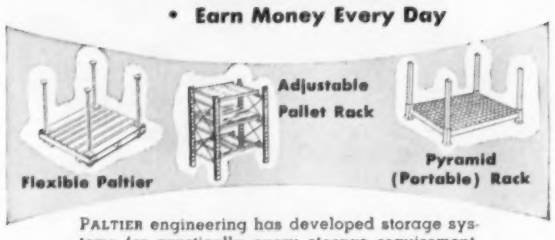
National Sanders

NATIONAL AIR SANDER, INC., ROCKFORD, ILLINOIS

For more details circle NED-628 F7 on enclosed inquiry slip

PALTIER SYSTEMS *are Best . . .*

- Increase Your Profits
- Provide Maximum Safety
- Earn Money Every Day



PALTIER engineering has developed storage systems for practically every storage requirement, proving that PALTIER's experience has no peer. There is a PALTIER SYSTEM designed especially for your plant.

Let PALTIER Engineers Show You How to Save with Safety.

Write for Complete Descriptive Literature.

THE PALTIER CORP.

Designers, Engineers and Manufacturers of Engineered Storage Systems

1705 Kentucky Street • Michigan City, Indiana

DISTRIBUTORS IN PRINCIPAL CITIES

For more details circle NED-629 F7 on enclosed inquiry slip

CALCULAGRAPH furnishes accurate cost data *Automatically*

Take the guesswork out of your production costs with a dependable, economical Calculagraph system — a system that gives you accurate time costs automatically.

What's more, many workers can record starting and finishing time on the same Calculagraph and the ELAPSED WORKING TIME for each is computed on your job cards — to the minute or tenth of an hour.

Investigate, install Calculagraph now and know your exact time costs.

Write for illustrated brochure to Dept. NE

Agents in Principal Cities.

CALCULAGRAPH *Company*

HARRISON, N. J.

DEPENDABLE ELAPSED TIME COMPUTERS SINCE 1892

For more details circle NED-630 F7 on enclosed inquiry slip

save valuable floor space...
reduce expensive man hours...
cut maintenance cost with the

COLSON
HYDRAULIC PALLET TRUCKS

The Colson Leverlifts are perfect for crowded floor areas and rail cars where the use of power equipment is prevented. They are an ideal supplement for short hauls and "spotting" loads. Choose from a complete line of single or double faced pallets or skid lift trucks.

SAVE MONEY! Easy opening "jack knife" head construction allows quick, easy maintenance. Sealed ball bearings in all wheels. Lubricated for life.

SAVE WORK! Every stroke a power stroke.— Toggle Booster Wheels avoid "skating" empty pallets. 19" wheels move easier—steer better.

SAVE SPACE! Only 16" longer than fork length when raised (18½" lowered) 4000 and 6000 lb. capacities permit higher pallet loading.

Use Colson's Material Handling Consultants for every handling problem

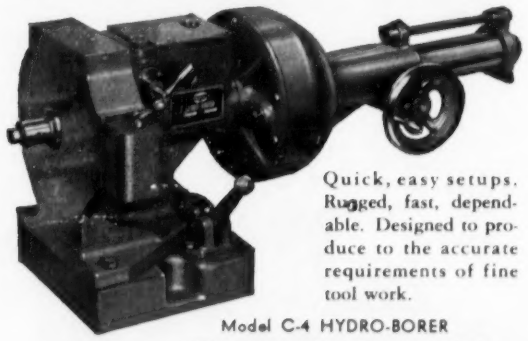
The Colson Corporation
General Offices, Elyria, Ohio
Factories in Elyria, Boston, Toronto

For more details circle NED-631 F7 on enclosed inquiry slip

GREENLEE **PRECISION BORING AT LOW COST**

Model C-4 HYDRO-BORER

Offers precision boring quality at low cost. Easily mounted on any type of base. Fixtures can be mounted on face of machine.



Quick, easy setups. Rugged, fast, dependable. Designed to produce to the accurate requirements of fine tool work.

Model C-4 HYDRO-BORER
WRITE FOR COMPLETE INFORMATION

GREENLEE
GREENLEE BROS. & CO.
2246 MASON AVENUE
Rockford, Illinois

For more details circle NED-632 F7 on enclosed inquiry slip

CIRCUIT BREAKERS
have toggle or push-pull actuators

Weighing less than 1½ oz, two miniaturized Klixon aircraft circuit breakers have only three moving parts: toggle or push-pull actuator, slide and thermal disk. They have a glass melamine case with high arc resistance. Rupture capacity has been shown in tests to be over 4000 amp, 120 v ac. Made by **Metals & Controls Corp.**, Spencer Thermostat Div., 1500 Forest St., Attleboro, Mass.

For more details circle NED-634 F7 on enclosed inquiry slip

THERMAL TIME DELAY UNIT
in 2 to 300 second delay intervals

Type BR thermal time delay resets instantly when its energizing circuit is interrupted, either during the timing cycle or after its completion. Units are available for standard delay intervals of 2, 5, 15, 20, 30, 60, 120, 180 and 300 seconds. Energizing voltage is 28 v dc. Time delay tolerance is ±10 per cent. Output contacts are either normally-open or normally-closed, single-pole, single-throw. They are rated 2 amp up to 230 v ac and 1 amp up to 32 v dc. The hermetically sealed unit has −65 to 125° C ambient range and will withstand shock of 30 G and 10 G vibration over 5 to 500 cps range. Made by **G-V Controls, Inc.**, 30 Hollywood Plaza, East Orange, N. J.

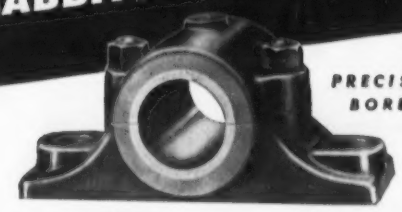
For more details circle NED-635 F7 on enclosed inquiry slip

OPERATOR-LED TRACTOR
35½-in. unit has 400-lb draw bar

Model WT-2A and WT-4A operator-led industrial tractors measure only 35½ in. long, a reduction of 3¼ in. over previous models. Model 2A has rated draw bar pull of 200 lb, while model 4A has 400-lb draw bar pull. Both have ultimate pulls of 700 lb. Short length is possible by use of new all-gear power unit. Truck can U-turn in a 4-ft aisle. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

For more details circle NED-636 F7 on enclosed inquiry slip

DODGE BABBITTED BEARINGS



PRECISION BORED!
TRUE RUNNING!
DEPENDABLE!

● There's a *big* difference between a Dodge Journal Bearing and a common flat box — a difference that pays off in longer years of service, smoother operation, power savings! Dodge Journal Bearings are precision bored and faced — to insure maximum bearing surface for radial and thrust loads . . . Solid or Split Journal. Shaft sizes from 1/2" to 3-15/16". Stocked by Dodge distributors. Write us for full details.

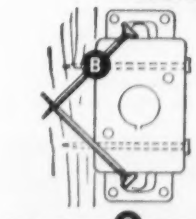
DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.
FIRST IN POWER TRANSMISSION MACHINERY

For more details circle NED-637 F7 on enclosed inquiry slip

NOW! Non-Gangable Switch Boxes

join the National Electric "REDEGE" Line

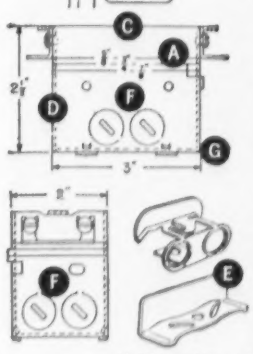


11 NG series for non-metallic sheathed and flexible cable

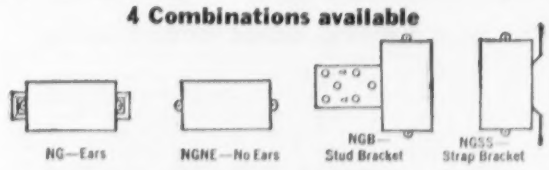
12 NG series for armored cable and flexsteel conduit

CHECK THESE FEATURES:

- A Plaster Line Gradation marking on the box
- B Diagonal and through nail holes
- C Plenty of capacity (12.8 cubic inches)
- D 14 Gauge Electro-Galvanized steel
- E 2 Cable clamps (each type)
- F 2 pri-outs—each end and each side
- G Square corners



4 Combinations available



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PITTSBURGH, PA.
2 Plants • 12 Warehouses • 41 Sales Offices

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WITH AN FMC AUTOMATIC HARDWOOD PALLET NAILING MACHINE

Mr. W. C. Maness says, "I CAN MAKE A BETTER PALLET, AT LESS COST AND FAR MORE RAPIDLY THAN UNDER THE HAND NAILING PROCESS WE FORMERLY USED."

An FMC Automatic Hardwood pallet Nailer like this one in operation at Maness Mfg. Co., Bryson City, N. C. will lower your accident rate, will drive screw type nails, raise your product quality.

Follow the lead of the Maness Manufacturing Company and put the FMC 401000 nailer to work for you today and get these same benefits in *your* plant. In addition to the direct savings outlined above, you'll find an FMC nailer will:

Reduce splitting
Nail wet or dry hardwood
Produce your orders on time
Increase your production
Countersink nails

Yes, for profit, substitute the automation of an FMC Nailer for out-of-date hand nailing. As Mr. Maness says, "We've had no mechanical failures." That means you, too, can build your nailing operation around the dependable FMC hardwood nailer.

Write today for complete details.

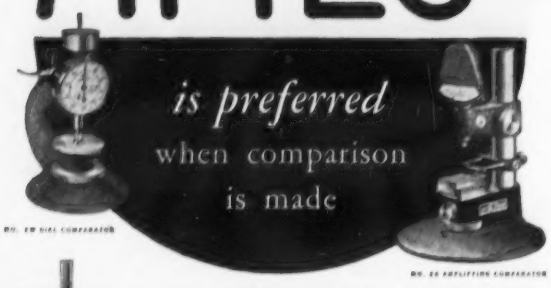
FOOD MACHINERY
AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
RIVERSIDE, CALIFORNIA

fmc

Food Machinery and Chemical Corporation; Nailing Machine Section, Riverside, Calif.
Please send information on Nailing Machine Checked
☐ Pallet Maker ☐ General Purpose Nailer
NAME _____ COMPANY _____
ADDRESS _____
CITY _____ STATE _____

For more details circle NED-633 F7 on enclosed inquiry slip

AMEs



For fast, accurate measurements, Ames Dial Comparators are the choice of quality control men everywhere. You get definite, impersonal readings directly from the dial. There's no guesswork or figuring.

Special comparators are available for measuring resilient materials such as rubber, paper, etc., and for measuring non-yielding materials such as sheet metal, glass and plastic. Write for complete details.

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MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

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Discover this NEW REVELATION in

Time-Saving FINISHING!

—a completely new slant on abrasive applications

through Brightboy's unique action of RUBBER and ABRASIVE

Brightboy's unique *rubber-and-abrasive* working action frequently reduces BURRING, FINISHING, CLEANING, POLISHING to a time-saving, single-step operation. Multi-use Brightboy comes in STOCK NUMBERS, JOB-MATCHED TO YOUR NEEDS. Does the work of "specials" plus usual finishing. Silicon Carbide and Aluminum Oxide abrasive grains. Each in grades from extra fine to extra coarse. Each in soft, firm and tough rubber binders.

Ask your dealer for Brightboy recommendations and for the Brightboy Catalog listing grains, textures, machine speeds, work suggestions. Write us if he cannot supply you or on any problem in which finishing is involved.

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RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street, Newark 7, N.J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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DATA you need

to select improved valves for your pumps

Famous for sustained efficiency under widely varied service conditions, DURABLA Pump Valve Units have been redesigned to incorporate a new taper-lock* stud, self-locking nut and drop-on guard. This improved design offers *seven new points of superiority.*

The booklet shows how DURABLA Pump Valve Units can benefit your pumps. Includes design details, materials available, table of seat sizes and dimensions. Send for free copy of Form 400 NED67.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

*Patent Pending DM-29

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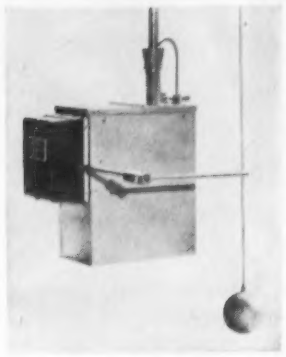
WATER TREATMENT REGULATOR for cooling water system, operates according to water evaporated



Water treatment regulation according to amount of water evaporated from a cooling water system instead of by constant volume chemical feed is afforded by the Hydrotrol water treatment feeder and bleed off regulator. Unit is used for control of mineral scale, corrosion, slime and algae in cooling water used for refrigeration, air conditioning, diesel engine and other cooling needs.

Unit electrically "locks in" the amount of chemical feed and bleed-off with the requirements, assuring no drift of treatment strength or mineral concentration. Thus, perfect regulation of cooling water treatment without continual water analyses is possible. Control housing is heavy cast aluminum, control shafts are stainless steel, and control float is heavy seamless copper. Made by **Heller Laboratories, Inc.**, Dept. CF, 124 Fort Lee Rd., Leonia, N. J.

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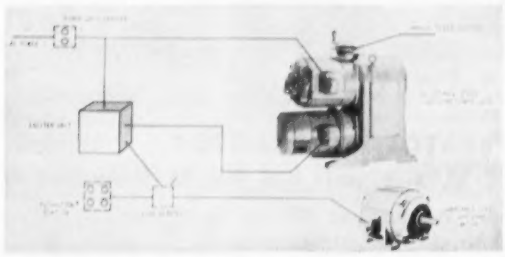
VARIABLE SPEED DRIVE system permits inching, soft starts and starting torque to 150 per cent

Web drives and other applications requiring adjustable acceleration are applications for this modified Varidyne system which permits soft starts, inching



and jogging of a remote, variable speed, alternating current, induction motor. Starting torque is variable from 50 to 150 per cent.

System consists of power unit (constant speed alternating current motor, variable speed transmission and alternator), exciter unit with tap transformer for control of starting torque, and one or more Varidyne alternating current induction type motors. Latter are available in open, totally enclosed and explosionproof designs with or without internal gearing. System is available from 1/3 to 50 hp with speed variations up to 5:1. Made by **U.S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

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FAMOUS Palley CATALOG SOON TO BE RELEASED!

396 PAGES PACKED WITH BARGAINS

ALL NEW 1957 CATALOG.. GREATER THAN EVER BEFORE FULLY ILLUSTRATED

THOUSANDS UPON THOUSANDS OF INDUSTRIAL, COMMERCIAL AND CONSUMER ITEMS AT GREATER SAVINGS THAN EVER BEFORE! New Merchandise! Top Quality GOV'T SURPLUS!

HYDRAULIC Cylinders, Pumps, Motors, Fittings, Tubing, Gauges, Instruments and Complete Assemblies of every description. A tremendous selection of Gov't Surplus as well as our own Custom Made line. And just wait until you see those prices!

TOOLS – SUPPLIES – EQUIPMENT in Electrical, Mechanical and Building lines. Aircraft Parts and Supplies. Electric Motors, Generators and Portable Power Plants. Pumps of all types. Tons and tons of Hardware. Fans, Blowers, Ventilators, etc.

WATCH THIS AD FOR ANNOUNCEMENT OF THE PUBLICATION DATE!

SAVE! SPECIAL GOV'T SURPLUS

2500 lb. WINCH HOIST

ideal for use in garage, shop, boat yard, farm, on trucks, etc. Has bronze, worm gear drive with 24 to 1 gear ratio and 3-speed crank. Comes with 18ft., 3/16", high tensile, steel cable. 29.50
WINCH HOIST – Same as above but has free-spool, pull-out clutch. 32.50
MOUNTING FRAME – for both hoists . 4.50
NOTE: We carry a complete line of hoists from small portables to huge, heavy duty types. Write for details.

SPECIAL 40,000 lb. THRUST HYDRAULIC CYLINDER

A GOV'T SURPLUS BARGAIN! This cylinder may be oil or air operated. Produces up to 40,000 lb. thrust with oil, on a 3000 PSI line pressure. May also be used as a low pressure air cylinder. Has a 4" bore and 10" stroke. 30½" long overall, rias been Navy overhauled. LIKE NEW! 49.95
NOTE. Our complete line of Hydraulics, including our own Custom Made line, is one of the largest stocks in the country. What we cannot supply we will manufacture to order.

UNIVERSAL JOINTS

Has a heavy duty, solid cast Bronze body. Rotates from 90° to 180° as desired. Has 29/32" diameter steel shafts with a ball and socket joint. In excellent condition Ready-to-use!!! $5.95

Write TODAY for complete list of many other types of universal joints, nauata, hydraulics, etc.

SPECIAL 180° OFFSET DRIVE

For use where tremendous power in a low take-off RPM is desired. Has 6 gears rotating on self-lubricating, hi-speed roller bearings 65 to 1 gear ratio Shafts are 1 1/4" and 3/8" diameter
USED in good condition ONLY 5.95
NEW in excellent condition . . NOW 8.95

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ALLOY STEEL
Finest quality Alloy Steel cable. Rust & corrosion resistant.
7 x 19 STRAND

Size	Price per ft.
1/16"	5¢
3/32"	6½¢
7 x 19 STRAND	
1/8"	9½¢
5/32"	10¢
3/16"	12½¢
1/4"	13½¢
9/32"	16½¢

STAINLESS STEEL
Aircraft Quality. Rust & Corrosion Proof. You can not beat this Bargain.
7 x 19 STRAND

Size	Price per ft.
1/16"	7¢
3/32"	14¢
5/32"	21¢
3/16"	33¢
7/32"	29¢
1/4"	38¢
5/16"	47¢

SAVE ON NEW NYLON ROPE

very Finest Nylon Rope. Top Quality. Available in Sizes of 1/8" to 1" diam. Prices as low as 3¢ per running foot. Write Today for complete price list.

Palley's 2242 E. VERNON AVE. DEPT. NED-6 LOS ANGELES 58, CALIF.

Order From This Ad – P.O's accepted from well rated D&B firms. Prices are F.O.B. our Los Angeles Warehouse.

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HERE'S THE MOST COMPLETE NOZZLE CATALOG EVER PUBLISHED

Whatever your nozzle problem, look first in this new catalog by Spraco. Here is complete information on a wide range of nozzle types and sizes as well as general spraying coverage data.

Send for your **FREE** *copy today . . .*

SPRAY
Engineering Company
106 Central Street, Somerville 45, Mass.

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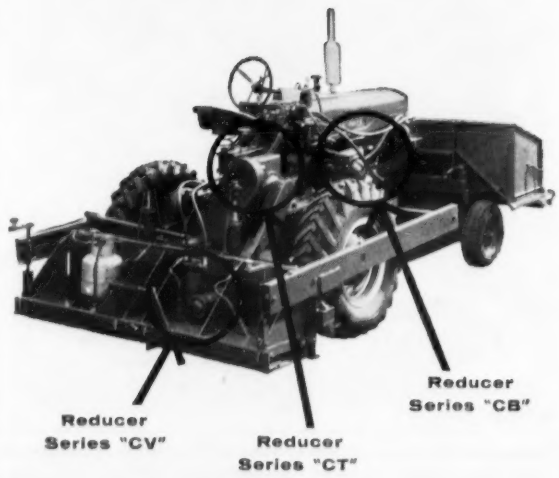
3 WINSMITH SPEED REDUCERS

HELP TRAC-PAVER SMOOTH OUT ROUGH PAVING JOBS



● Trac-Machinery Corp., manufacturers of TRAC-PAVER — the self propelled black top paver, select Winsmith Speed Reducers for three exacting control jobs.

Winsmith reducers were chosen for their ability to take plenty of on-the-job punishment — a requirement that TRAC-PAVER must meet every day on hundreds of jobs in the field.

On the TRAC-PAVER illustrated, a Winsmith reducer model 9 "CT" actuates the conveyor and auger; a 9 "CB" operates the traction drive and forward motion drive; and a 5 "CV" runs the finishing bar oscillating screed.

Whether your product uses one or many speed reducers per unit, investigate the advantages of standardizing on the Winsmith line . . . the most complete line within the range of 1/100 to 85 h.p.

● Selection information and engineering data on the complete line is covered in Catalog #155. Write for your copy.

WINSMITH SPEED REDUCERS®

WINSMITH, INC.
119 Eaton Street, Springville, (Erie County), N. Y.

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No threads...
JOIN PLAIN-END PIPE

Ideal for fuel, coolant, air lines on compressors, heavy machinery, pumps and other original equipment. You'll get a permanent joint in just 30 seconds with this easy-to-join fitting. There's no threading, exact pipe fitting or alignment needed. Resilient rubber gaskets in the Dresser Style 65 give you permanent protection against vibration, normal expansion and contraction stresses that spring leaks in other joints. Sizes ⅜" to 2".

Complete line of couplings, tees, ells, etc. Write for catalog.

DRESSER®
MANUFACTURING DIVISION
30 Fisher Ave., Bradford, Pennsylvania

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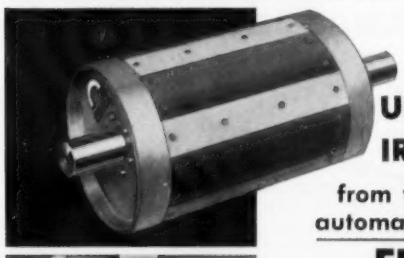
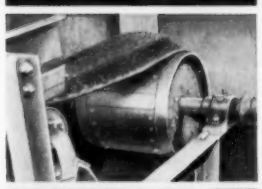


REMOVE UNWANTED IRON
from your lines automatically with
ERIEZ
permanent-powered MAGNETIC PULLEYS



TOP: *Eriez Pulley removing tramp iron from pulverized coal. Protects equipment, helps prevent explosions.*
BOTTOM: *This Eriez Pulley is automatically removing ferrous contamination from grain at a milling plant. Assures product purity, prevents machinery damage and fires and explosions.*

No maintenance, no operating costs! Improved design is more effective than ever before for *automatic* separation of magnetic from non-magnetic materials conveyed on belts of rubber, canvas, stainless steel, etc. Equally efficient with hot or cold, wet or dry materials. *Eriez Magnetic Pulleys are easily installed, non-electric, self-contained, operate without any wires or attachments. Magnetic strength is guaranteed 100 years; first cost is the only cost.*

ERIEZ HI-POWR MAGNETIC SEPARATORS

Magnetic SEPARATION AUTOMATION VIBRATION equipment

Write for BIG NEW CATALOG showing complete line of Magnetic Pulleys. ERIEZ Mfg. Co., 80-T Magnet Drive, Erie, Pa.

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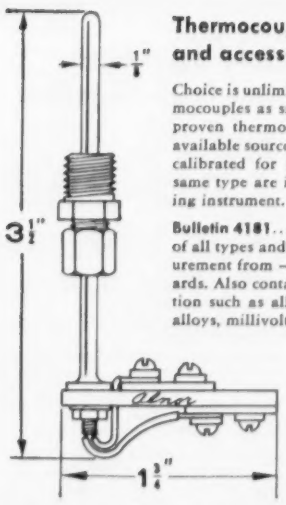
Alnor®
pyrometer supplies



Thermocouples, alloy wire, and accessories

Choice is unlimited at Alnor, where you'll find thermocouples as small as ⅛" O.D. and more unique, proven thermocouple designs than at any other available source. Each thermocouple is individually calibrated for its specific application—all of the same type are interchangeable without recalibrating instrument.

Bulletin 4181...lists thermocouples and accessories of all types and alloys for every temperature measurement from —100° F. to 3000° F., to ISA Standards. Also contains complete engineering information such as alloy curves, uses and limitations of alloys, millivolt relationship tables, etc.

Bulletin 4257...lists *surface* temperature thermocouples and accessories available from Alnor.

Circle bulletin number you want, attach this ad to your letterhead and mail to: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Model 3480 small pipeline thermocouple. Precision built to Alnor performance standards. Unit price: $9.00.

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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HAND TORQUE SCREWDRIVER for assembly of small parts

Small nuts, screws and other threaded fasteners can be run to precise torque without risk of stripping miniature threads or fracturing brittle materials with this hand torque screwdriver. Tool is intended for production work where accuracy and speed are required. Torque adjustment can be made from 0 to 8 lb-in. in visual increments of ¼-lb-in. Push action minimizes operator influence. A ¼-in. female hexagon drive to receive special bits and sockets is available. Made by **Swift Tools Inc.**, 3201 S. Prairie Ave., Sioux Falls, S. Dak.

For more details circle NED-650 F7 on enclosed inquiry slip

MACHINING CALCULATOR for stainless steel, is free

Concise data on turning, drilling, tapping, threading, milling and reaming operations on various grades of stainless steel are readily obtained with this pocket-size slide chart. Simple settings provide guidance on recommended speeds and feeds. Included are notes on drilling, tapping, lubrication and welding, as well as tabulations on relative workability of stainless steel in a variety of operations including blanking, deep drawing, stamping, forging, heading and roll threading. Available free from **Carpenter Steel Co.**, 318 W. Bern St., Reading, Pa.

For more details circle NED-651 F7 on enclosed inquiry slip

MOLD CLEANER-LUBRICATOR employs air-jet for both functions

Complete system for cleaning and lubricating mold-cavity surfaces is provided by the Air-Lube. System uses an easily-handled type gun with dual pressure control. One pressure directs powerful air-jet to remove flash and metal particles from mold, while further pressure on lever of the same gun shuts off the air and shoots vaporized lubricant in an even coat over all mold surfaces. Vapor is adjustable. Lubricant in tank is agitated by incoming air. Kit sells for $97.50. Made by **Pierce-Waller Co.**, Kettering P.O. Box 2121A, Dayton 9, O.

For more details circle NED-652 F7 on enclosed inquiry slip

Seen Towmotor's new advances?

- New functional body styling
- New pace-setting comfort features
- New "tight-spot" maneuverability
- New centralized easy-reach controls
- New positive-response hydraulic lift
- New Towmotor-improved Power Steering

Some of the industry's major improvements in low-cost mass handling are in the new Towmotor fork lift trucks. Write for Towmotor bulletin #SP-23 describing all 12 new features.

TOWMOTOR THE ONE-MAN GANG - GERLINGER

TOWMOTOR CORPORATION • Cleveland 10, Ohio

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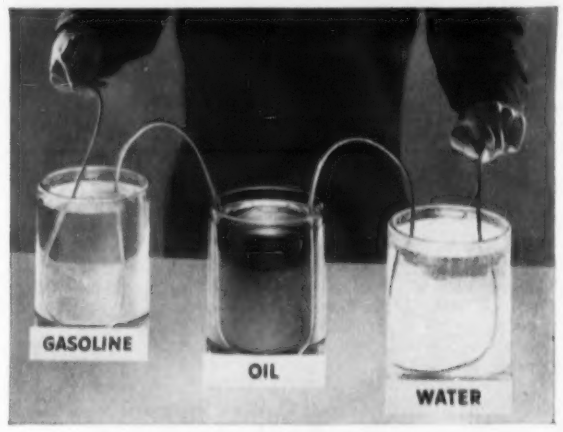


NEW WIRE RESISTS ALL 3

This is Anaconda's new Dentrol wire—approved by Underwriters' Laboratories for direct exposure to gasoline and oil. Made with a clear nylon jacket overall, Dentrol affords new safety wherever wiring is exposed to gasoline or oil—new economy over lead-covered cable used up to now in these areas. Recommended for 600 volt wiring for lighting and control in and around refineries, tank farms, service stations, and industrial plants where TW wire may be used and is exposed to gasoline and oil. Write for full information to: Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.

ANACONDA®

For more details circle NED-654 F7 on enclosed inquiry slip

The Lepel line of induction heating equipment represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating.

If you are interested in induction heating you are invited to send samples of the work with specifications. Our engineers will process and return the completed job with full data and recommendations without any cost or obligations.

TYPICAL INDUCTION HEATING APPLICATIONS

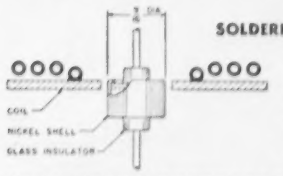
HARDENING DIESEL FUEL INJECTOR

Restriction of heat to end of holder body for fuel injector permits hardening of face to provide required resistance to deformation without hardening the threads. Coil design shown provides uniform temperature for hardening despite holes in face.

REMOVING RUBBER FROM STEEL

Induction heating develops uniform temperature at steel-rubber interface destroying bond for easy separation. Steel and rubber may similarly be salvaged from mounting brackets, shock absorbers, etc.

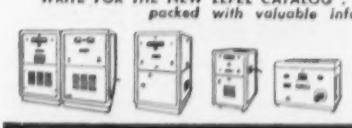
SOLDERING TRANSISTOR ASSEMBLIES



Concentrator-type coil creates high intensity, restricted heating at joint of nickel shell and tinned glass, thus causing solder flow for permanent seal

Electronic Tube Generators from 1 kw to 100 kw.
Spark Gap Converters from 2 kw to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.



All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

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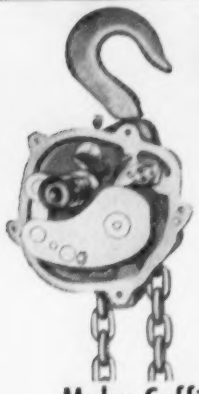

New Compound Levers

Make Coffing Super Powers the most efficient hoists in their class

Super Power hoists are designed around a new compound leverage principle which enables workmen to raise loads with less handle pull than other hoists of the same capacities. Use of these compound levers also makes the hoists 20% lighter than competitive models.

Available in 1½ and 3-ton capacities in aluminum and 1½ to 5 tons in malleable iron, Super Powers offer sealed-in lubrication, "Safety Valve" handles, overload testing and constant load-locking ratchet-and-pawl construction. For complete details, consult your Coffing distributor, or write for Bulletin L-3. **Coffing Hoist Division, Duff-Norton Company, 803 Walter Street, Danville, Ill.**

For more details circle **NED-656 F7** on enclosed inquiry slip

Balance Rotating Parts

FASTER...EASIER

No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy weights. Superior accuracy lasts throughout the long life of the balancing ways. Proved and preferred 38 years. For information on sizes, types, and prices of Anderson Ways, write for Bulletin 7-40.

Anderson **Write for Bulletin 7-40**

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

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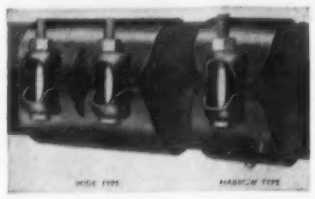
For more details circle **NED-658 F7** on enclosed inquiry slip

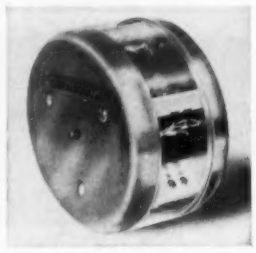
PIPE CLAMPS
improved wide and narrow types



Rust holes and corroded areas in pipe lines can be repaired with the improved Skinner - Seal pressed steel economy clamp. Reinforced models have closed lugs that are formed from the 3/16-in. metal. Narrow model is now 4 in. wide instead of 3½ in., while the wide model is 8¼ in. instead of 6½ in. Sizes for all standard steel and cast iron pipe range from 4 to 24 in. OD. Made by **M. B. Skinner Co.**, Dept. PS, 3502 W. Sample St., South Bend 21, Ind.

For more details circle **NED-659 F7** on enclosed inquiry slip

MAGNETIC MEMORY DRUM
miniature unit has 14 channels



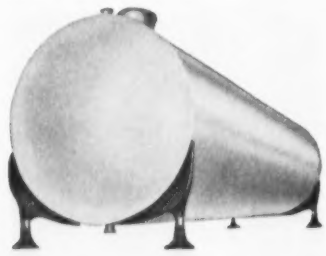
Having only 3½-in. diameter, this miniaturized magnetic memory drum can store over 12,000 bits of data and associated clock and reference information. Device may be incorporated in data handling and computer systems, or utilized as a laboratory testing instrument. Standard drum contains 12 information channels, plus clock and fiducial channels. Each is 0.070-in. wide and has a capacity of 1024 bits. Drum is belt-driven at variable speeds up to 15,000 rpm. Access time is about 1.25 milliseconds. Models with up to 36 channels for storage of 36,000 bits of information can be produced. Made by **Borg-Warner Corp.**, BJ Electronics Div., 3310 Newport Blvd., Santa Ana, Calif.

For more details circle **NED-660 F7** on enclosed inquiry slip

JANITOR SERVICE WAGON
frame collapses to 4-in. depth

All-purpose janitor service wagon which rolls on 2-in. rubber wheels carries a removable and washable canvas bag. Wagon measures 20 x 19 x 43½ in. when open, yet angle framework collapses to 4-in. depth and under 50 in. high. The plain white bag is secured to frame with grommets. Points of strain on the bag are reinforced with heavy russet leather. Bags of different duck weights, either white or khaki colored, are also available. Made by **C. R. Daniels, Inc.**, Dept. N, Daniels, Md.

For more details circle **NED-661 F7** on enclosed inquiry slip



25¢ per gallon
for corrosion-resistant storage!

"Chemstor"—that's the name of Pfaudler's standard line of *glassed steel* tanks which protect solvents against contamination, stop acid corrosion, make cleaning easy.

In larger sizes, these glassed steel tanks cost as low as 25¢ per gallon!

Simple in design, they are made in standard sizes and can be produced quickly.

- Sizes range from 750 to 35,000 gals.
- Available with two types of Pfaudler glass—depending upon service requirements.
- Vertical or horizontal construction.
- Can be used inside or outside.

Find out how "Chemstor" tanks can help you solve your difficult chemical storage problems.

Bulletin 918 gives you all the facts. Send for it.

THE PFAUDLER CO.
Rochester 3, N.Y.

Specialists in Corrosioneering

For more details circle **NED-662 F7** on enclosed inquiry slip

For more details circle **NED-663 F7** on enclosed inquiry slip

NEW HANDBOOK OF SMALL TOOLS AND ACCESSORIES

Here is our new, enlarged catalog with 1375 different items listed and described — more than 230 illustrations. Such essential tools as cutters, vises, arbors, rotary tables, chucks, collets, master copy type and other tool room and production line necessities are all within the covers of this 52-page book. Yours without obligation on letterhead request.

A 8929-1/9-R

GEORGE GORTON MACHINE CO.
1906 Racine St. Racine, Wis.

For more details circle **NED-664 F7** on enclosed inquiry slip

Safer lubrication
One hand operation

NEW ARO-PAK

Refilling with time-saving Aro-Fil Gun Filler.

- **LIGHT WEIGHT, PORTABLE, ONE HAND OPERATION**... gets hard-to-reach fittings!
- **HOLDS 3 LBS. GREASE**... lubricates more fittings between refills.
- **PERMANENT AIR PRIME** . . . maximum pressure 7,500 p.s.i.
- **FASTER LUBRICATION, VOLUME DELIVERY** ... Cleaner lubrication. Sealed against dirt.
- **FAST REFILL**... in less than minute with ARO-FIL gun filler.

See your industrial distributor or write for Bulletin No. 5710.

THE ARO EQUIPMENT CORPORATION
Bryan and Cleveland, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7 . . . Aro Equipment of Canada, Ltd., Toronto 15, Ontario.
Offices in All Principal Cities

ARO® LUBE EQUIPMENT
Also... Air Tools... Air Hoists... Aircraft Products... Grease Fittings

For more details circle **NED-665 F7** on enclosed inquiry slip

For clean, accurate, dependable heat—
CONVERT TO CHROMALOX
ELECTRIC IMMERSION HEATERS

CHECK THESE 5 BIG FEATURES:

- Portable, screw-plug, flanged types; full range of sizes and ratings
- "Packaged" units—heating element and thermostat in one
- Copper, steel, alloy or lead sheath
- Explosion and moisture-resistant terminal boxes available
- Most sizes ready NOW for immediate shipment

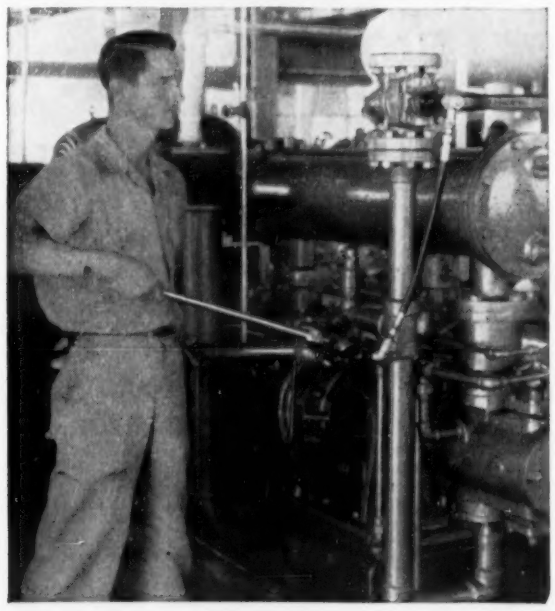
For these applications:
Heating water, oils, Dowtherm, Prestone, tars, greases • Plating, cleaning and pickling solutions • Heating tanks, drums, process kettles • Melting greases, asphalt, other viscous fluids • Super-heating steam, compressed air • Melting lead, solder, babbitt and stereotype metal.

Free Catalog

Write today for Catalog 50. Full details including prices for Chromalox Electric Immersion Heaters and other units that provide the electrical answer to many more heating problems.

Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pa.
G-2102
See ad on Page 4.

For more details circle NED-666 F7 on enclosed inquiry slip



REPLACE VALVE SEATS IN SECONDS

Save Money, Down Time and Maintenance

The man in the photo above is actually replacing seating surfaces on a Rockwell-Nordstrom valve while the valve *is in service.* Usually, when a valve seat wears slightly it means down time for repairs and replacement. Rockwell-Nordstrom lubricated plug valves eliminate this cost because the seating surface between plug and body is a film of *pressurized lubricant.* Each time the valve is lubricated, the seat renews itself. And unlike ordinary metal seats, the tough plastic lubricant resists cutting or corrosion even on "hard to handle" services. Lubricant saves further by reducing wear for longer valve life at lower cost.

Available in a *complete* line of sizes and pressures. Rockwell-Nordstrom valves cost no more to buy—often less—than ordinary valves. Write for complete details. Rockwell Manufacturing Company, Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.

ROCKWELL-Nordstrom VALVES
Lubricant Sealed For Positive Shut-Off

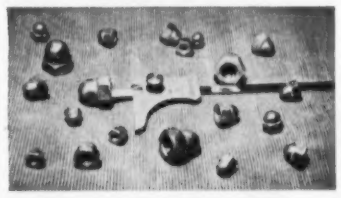
For more details circle NED-667 F7 on enclosed inquiry slip

LIGHT WEIGHT AIR HAMMER
delivers 0-13,000 blows per minute

Metering trigger of the Bantam Bully air hammer lets operator deliver from 0 to 13,000 blows per minute with light finger pressure. Hammer measures 6 in. long, weighs 20 oz and uses 6.5 cfm of air at 90 psi. Twenty-four different tools for scaling, chiseling, peening, metal cutting, star drilling, and other functions, are available for use with the hammer. Slip chuck snaps various tools in or out easily and can be locked in eight different positions. Made by **Superior Pneumatic & Mfg., Inc.,** Dept. NE, 4758 Warner Rd., Cleveland 25, O.

For more details circle NED-668 F7 on enclosed inquiry slip

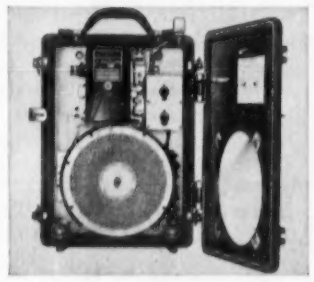
CAP NUTS
have long threaded length



"High series" of die cast zinc alloy cap or acorn nuts have up to 50 per cent greater thread depth than standard cap nuts, achieved by an increase in their overall height. The corrosion resistant fasteners are available from stock in hex sizes from 5/16 to 5/8-in. Class 2 threads (NC or NF) are tapped square with the face and counterbored. Nuts are free of burrs and can be supplied with standard finishes. Photo shows high series and standard cap nuts. Made by **Gries Reproducer Corp.,** 143 Beechwood Ave., New Rochelle, N. Y.

For more details circle NED-669 F7 on enclosed inquiry slip

MILLIVOLTMETER RECORDER
portable unit for survey work

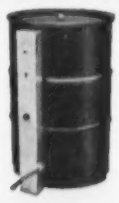


Self - contained, portable millivoltmeter recorder can be used to study almost any condition encountered in survey work which involves measurement of voltage and current, such as in corrosion surveys. Movement sensitivities are either 2000 or 10,000 ohms per volt. Each instrument measures over eight ranges, made available by turning a trap switch. It records on an 8-in. diameter carbon-coated chart. Instrument can be used for long term continuous records since it can be left unattended for up to one week. Drives to rotate chart in 96 minutes or 24 hours are available. Recorder is weatherproof and weighs about 25 lb. Made by **Bristol Co.,** 30 Bristol Rd., Waterbury 20, Conn.

For more details circle NED-670 F7 on enclosed inquiry slip

Aircon VAPOR DEGREASERS

ANY SIZE . . .
Standard or Custom
Aircon Vapor Degreasing Systems are available in a complete line, ranging in size, from the smaller bench and barrel-type units to the larger, permanent, high capacity degreasers.



Aircon Degreasers are:
- GAS, ELECTRIC OR STEAM HEATED
- COMPLETE UNITS WITH ALL SAFETY EQUIPMENT

NO EXTRAS TO BUY!

Write today for full information

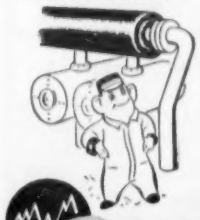
WE ARE DESIGNERS AND ENGINEERS OF SPECIAL DEGREASING EQUIPMENT. CONSULT US ON YOUR DEGREASING PROBLEMS.

Armstrong & White
CHESWICK, PENNSYLVANIA

For more details circle NED-671 F7 on enclosed inquiry slip

Intake and Exhaust NOISE
Pipe System PULSATION
Stopped with
BURGESS-MANNING SNUBBERS

The Burgess-Manning Snubbing Principle has been engineered to effectively eliminate the costly and nerve-racking problem of noise and pulsation. We have, for many years, specialized in the science, cause and effect of noise and pulsation problems. We have adapted the Burgess-Manning Snubbing Principle to many and varied problems in every branch of industry to increase production, minimize maintenance, eliminate this serious source of compensation claims and improve public and employee relations. Burgess-Manning Snubbers are available with such plus features as: air cleaning—or, spark arresting—or, surge control—or, water separating—or, heat recovery.



Let us engineer your noise and pulsation problems right out of existence.

Write for Case Histories.

BURGESS-MANNING COMPANY
Sound Engineering 755 East Park Avenue, Libertyville, Illinois
Dallas, Texas

For more details circle NED-672 F7 on enclosed inquiry slip

SIMPLICITY 18" x 36" SIMPLI-FLO
IDEAL FOR SCREENING MATERIALS SUCH AS SAND, FOODS, CHEMICALS

A multitude of products ranging from vegetables to chemicals can be processed with this general purpose 18" x 36" Simpli-Flo Simplicity Screen. This efficient little screen operates without vibration in the supporting structure. And it has a counterbalanced eccentric shaft for true circle action. It screens materials to an 80 mesh, and may be equipped with stainless steel deck for foods or corrosives. For further details write today for CATALOG NO. 53.

173

Simplicity
TRADE MARK REGISTERED
ENGINEERING COMPANY • DURAND 15, MICH.
FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

For more details circle NED-673 F7 on enclosed inquiry slip

Gage small parts quickly and economically with the KODAK CONTOUR PROJECTOR, Model 8

Here's a portable, bench-type comparator that gives you the speed, economy, and precision of optical gaging at moderate cost. With little training, operators can inspect all sorts of stampings, screw machine and similar parts completely, accurately, and quickly.

The Model 8 can be used for either vertical or horizontal projection with the shadow image always erect and right-reading. Interchangeable lenses give a choice of any of six for magnifications from 10× to 100×.

For details on the Kodak Contour Projector, Model 8, and how you can use it, send for the booklet, "Projection Gaging with Kodak Contour Projectors." Write *Apparatus and Optical Division.*

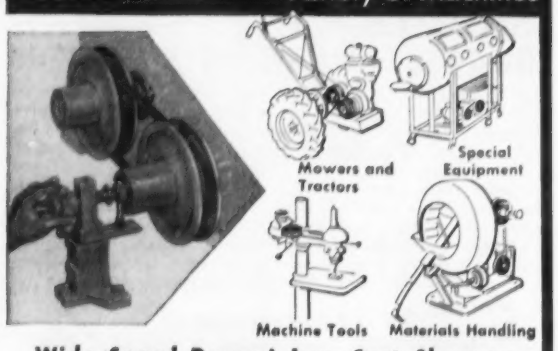
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Kodak

For more details circle NED-674 F7 on enclosed inquiry slip

SPEED SELECTOR
VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

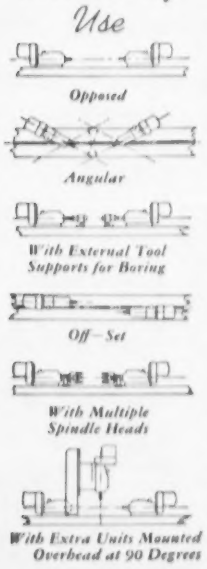
SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO
For more details circle NED-679 F7 on enclosed inquiry slip

DRILL-TAP
THREAD-FACE
REAM . . .
FASTER at LESS COST!

Hause Holomatic Double End machine. Available with manual cycle or automatic—interlocked control systems.

with a Holomatic

Methods of Use



• Hause Holomatic Double End machines are designed specifically to perform *two or more* drilling, tapping, threading, reaming, thread rolling, chamfering, spot facing—or similar operations *at one time.*

Holomatic units use factory air supplies for thrust power and a self-contained hydraulic system provides positive, infinitely adjustable control of the rapid travel and feed movements of the quill.

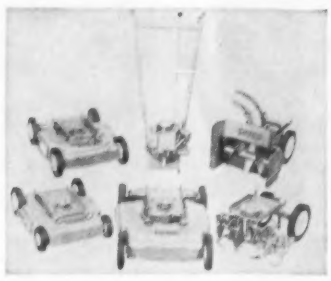
A Holomatic Double End machine efficiently handles parts up to 35" long by 18" in diameter. Capable of drilling ⅝" in mild steel, tapping ¾"—16 and cycling speeds up to 3600 full length strokes per minute. Easy to set up using standard air clamps, index tables and other part locators.

A Holomatic Double End machine in your plant will quickly pay for itself—even on low quantity production work. Investigate the many advantages of the Holomatic system—now!

• *Write today for complete information plus an actual obligation-free Holomatic demonstration in your plant.*

Hause MACHINES, INC.
MONTPELIER, OHIO
For more details circle NED-680 F7 on enclosed inquiry slip

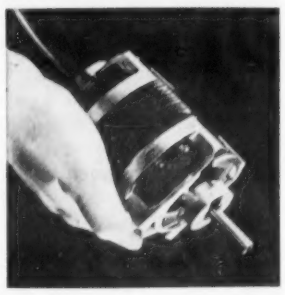
COMBINATION YARD MACHINE includes mower, tiller, snow thrower



Five attachments which make up the Power-Pak 60A combination yard machine include three rotary mower units, the Till-Pak rotary tiller and the Sno-Pak snow blowing plow. The mowers include one 18-in. and two 21-in. models, one of them self-propelled. Change-over of engine-handle unit from mower to tiller to 17-in. wide snow caster is accomplished in 1 minute without tools. Power is provided by four-cycle, 2¾-hp gasoline engine equipped with automatic rewind starter. Conveniently located clutch and throttle govern all operations of the Power-Pak. Tubular steel handles are adjustable in height. Made by **Food Machinery & Chemical Corp.,** Bolens Products Div., 247 S. Park St., Port Washington, Wis.

For more details circle NED-681 F7 on enclosed inquiry slip

SPLIT CAPACITOR MOTOR for business machine applications



Rated either 1/40 or 1/20-hp, type FL 19-frame two-pole permanent-split capacitor motor for small business machines operates on 115 or 230 v 50 or 60-cycle single-phase ac at 3200 rpm. It will run clockwise or counterclockwise and can be made reversible. Motor measures 3 in. in diameter by 4⅛ or 5 in. long for 1/40 and 1/20-hp rated units, respectively. The open, self-ventilated motor can be mounted rigidly, or provided with rubber rings for resilient mounting. It does not cause radio or television interference. Made by **Westinghouse Electric Corp.,** Box 2099, Pittsburgh 30, Pa.

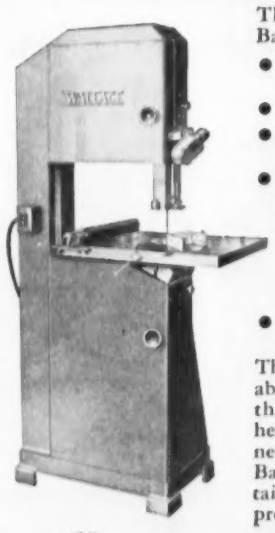
For more details circle NED-682 F7 on enclosed inquiry slip

Motion Economy & Work Measurement

Second edition of "Motion Economy and Work Measurement" by R. L. Morrow, reflects the latest thinking on this subject. This textbook includes new materials on fatigue measurement, standard data, micromotion study, training of time study men, and automatic machine work assignment. Particular attention is paid to work sampling techniques and their application to work simplification, setting of time standards and control of manufacturing operations. The 474-page work is priced at $7.50 and is published by Ronald Press Co., 15 E. 26th St., New York 10, N. Y.

For more details circle NED-683 F7 on enclosed inquiry slip

New Wallace No. 56 18" Band Saw
. . . cuts woods, plastics, metals
. . . easily! quickly!



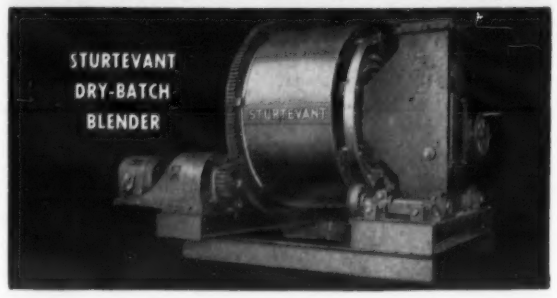
The new Wallace No. 56 Band Saw offers . . .

- Full range of speeds from 50 to 3800 fpm
- Sealed-for-life bearings
- Exclusive blade guide adjustment — from above
- Maximum capacity — 12" between table and guide; 17¾" between saw blade and frame
- Table accommodates standard rip fence and miter gauge — adjustable to any angle from —10° to 45°
- Lowest priced machine of commercial capacity

These and many more profitable features are embodied in the advanced design and heavy-duty construction of the new 18-inch Wallace No. 56 Band Saw. Write for full details on this low-cost, high-production band saw.

J. D. WALLACE & COMPANY, INC.
318 N. Market St., Warsaw, Indiana
For more details circle NED-684 F7 on enclosed inquiry slip

BLENDING COSTS cut 2 ways!



1. PRODUCTION SPEEDED UP BY 4-WAY MIXING
2. SHUT-DOWNS SHORTENED BY "OPEN-DOOR" DESIGN

Batches from 500 to 40,000 pounds are completely blended regardless of varying weights, densities or fineness of different ingredients. No dust loss!

Four different vertical and lateral mixing actions do the job in minimum time. Single lever control of single gate speeds loading and discharging.

"Open-Door" accessibility for quick, easy cleaning and maintenance *plus* 75-year-tested rugged construction add up to more output per machine-year.

Write for Bulletins on Sturtevant Batch Blenders and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS
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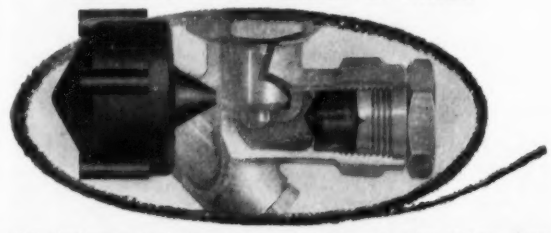
THE SHAPE OF THINGS IN MOLDED RUBBER

MOLDED DIAPHRAGM GIVES TOP PERFORMANCE IN WATER



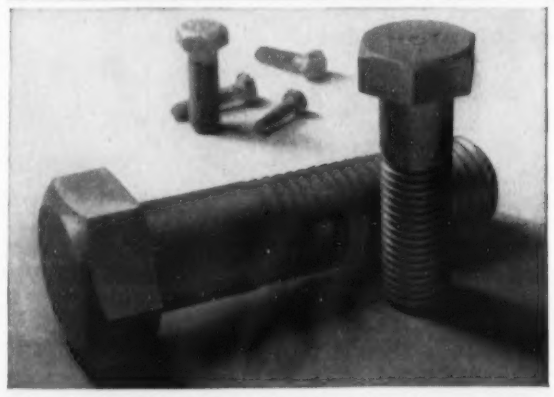
This diaphragm is the heart of a precision water flow device. Less than 1" in diameter, it must withstand pressures from 10 to 150 lbs. psi. To obtain the necessary precision required, Acushnet engineers designed and used an injection mold.

To maintain high quality, strict production controls were instituted. All neoprene stocks, prior to molding, were checked for physical properties and weight. Samples were taken from every heat for flow tests approximating five days. Stocks that did not produce parts to the spec were scrapped. This extra quality control resulted in our molding a complete line of diaphragms to specification for this customer, a well-known valve manufacturer.

Acushnet offers complete under-one-roof facilities for the accurate compounding, engineering and precision molding of rubber, silicone and silicone resin parts.

What's Your Shape?
Send for Acushnet "Rubber Data Handbook."

Acushnet ACUSHNET PROCESS COMPANY
NEW BEDFORD, MASSACHUSETTS
. . . *Precision Molded* RUBBER, SILICONES - "APCOTITE" BONDING
Address all communications to 782 Belleville Ave., New Bedford, Mass.
For more details circle NED-686 F7 on enclosed inquiry slip



Cleveland upset forged hexagon head cap screws make your assemblies stronger and safer

The flow lines in every Cleveland hexagon head cap screw follow the contour of the head. This means extra fastener muscle, because it eliminates the planes of weakness along which shear might occur under the dynamic stress of heavy impact and vibration.

Cleveland hexagon head cap screws are available in sizes and physical properties to meet the most exacting demands of modern machinery design. Your Cleveland distributor can supply all standard sizes in bright and quenched and tempered steels without delay—alloy steels on short notice. And remember, he is backed by the most up-to-date production facilities and the largest factory stock of hexagon head cap screws in the world.

Write for pocket size guide that gives you the physical properties of Cleveland screws.

THE CLEVELAND CAP SCREW CO.
4444-18 Lee Road, Cleveland 28, Ohio
Warehouses: Chicago • Philadelphia • New York • Los Angeles
For more details circle NED-687 F7 on enclosed inquiry slip

For low-cost, *positive* protection, you just can't beat these quality plugs and caps. They're mis-application-proof . . . have rugged impact strength . . . are easy to install and remove, but won't jar or pop out. Won't shred, and there's no greasy, waxy-feeling surface for your fingers to slip on.

They are a quality product . . . available in a full range of standard sizes—threaded or plain. S. S. WHITE has the exact closure you need! For literature, samples and full information, just write to Dept. 7P.

S.S.White

S. S. WHITE PLASTICS DIVISION
10 East 40th Street, New York 16, N. Y.
Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.

For more details circle NED-688 F7 on enclosed inquiry slip

Deburrs 1520

1" TUBE ENDS PER HR. on PINES END FINISHING MACHINE

Here's another outstanding example of how the Pines No. 600 End-Finishing Machine is setting records for production speed and efficiency. Today, at Configured Tube Products Company, Bellwood, Illinois, the Pines Machine (shown at right) performs inside and outside deburring on 1" steel tubing at net production rates of 1520 tube ends per hour. Such high-speed production is made possible by the exclusive design of the Pines Machine which enables the operator to clamp and feed work to the rotating cutters in one pass, so that one hand is always free for rapid stock handling.

Exclusive Features Speed Work

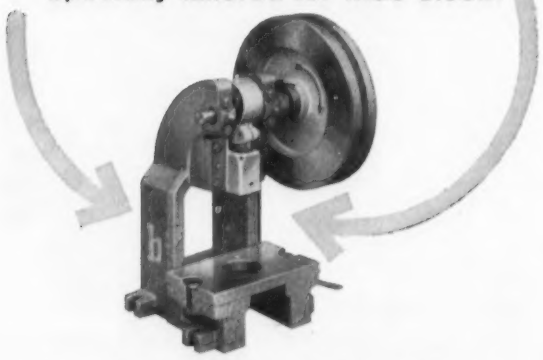
Still other outstanding Pines features such as quick, interchangeable tool holders, chuck inserts, 8-speed sheave (760 to 3920 rpm), sturdy spindle, and grease-sealed precision bearings assure fast, accurate work. The Pines No. 600 handles chamfering, pointing, facing, and reaming operations, as well as deburring, on stock diameters up to 2". Maximum feed stroke is 1-1/4". Automatic air-operated units for higher production work, and larger sizes up to 5" capacity are also available.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 641 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

FREE BULLETIN
Write for facts on how these machines cut production costs.

For more details circle NED-689 F7 on enclosed inquiry slip

Another (new) benchmaster
specially tailored for wide stock!



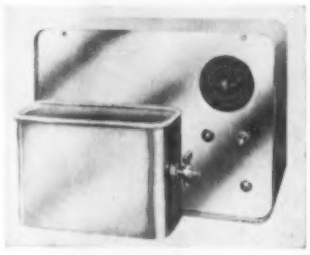
benchmaster FIXED BED, GAP FRAME 2-TON PUNCH PRESS

Here's Benchmaster's latest... a little dandy measuring only 17¼" high, *but packing a 2-ton wallop!* Built with much wider spacing of the columns than usual, it easily accommodates stock 4" wide (feeding front to back) through the 4½" opening... *the ideal press for application to foil and hundreds of fast, light assembly jobs!* Husky construction, adjustable gibs and improved, heavy-duty sliding key-type clutch mean this little giant is *all* Benchmaster, through and through! For your *wide stock, low tonnage problems* ask for details on this and other Benchmaster models... STANDARD, DEEP THROAT, BACK-GEARED, FIXED BED AND HALF PRESS TYPES in a wide range of tonnages.

benchmaster
World's largest manufacturer of small punch presses and dies
1835 West Rosecrans Avenue
Gardena, California

For more details circle NED-690 F7 on enclosed inquiry slip

ULTRASONIC CLEANER
operates at 40 kc frequency



Small metal parts, electromechanical instruments, aircraft instruments, watch parts, small diameter tubing, delicate research instruments, glass and ceramic can be cleaned quickly in model U-621 ultrasonic cleaner. Portable unit operates at 40-kc frequency and has an automatic timer, variable up to 55 minutes. Tank capacity is 2 pt, and ordinary detergents or chlorinated solvents are used. Cleaning time can be as little as 5 seconds. Cleaner can also be used for agitation of liquids and for experimental emulsification and demulsification. Made by **Gulton Industries,** 210 Durham Ave., Metuchen, N. J.

For more details circle NED-691 F7 on enclosed inquiry slip

HEAVY DUTY PLIERS
line includes various types

Heavy duty lineman, diagonal, electrician, wiring, needle nose, ignition, water pump and general pliers are included in expanded Hunter line. All are triple-coated with a high dielectric Sure-Grip coating. Illustrated PL-805 needle nose wiring pliers have 5-in. length, long slim nose and wide-spread handle. Made by **Hunter Tool Co.,** 6606 S. Gretna Ave., Whittier, Calif.

For more details circle NED-692 F7 on enclosed inquiry slip

PROPANE TORCH
button provides pilot and full flame

Pushbutton control incorporated in the TX-65 Bernz-O-Matic propane torch responds to various amounts of pressure to provide any heat from a small pilot light to a 2300° F full flame. The 1 x 3-in. burner shield makes possible a "king size" flame. Propane gas in the nonrefillable cylinder burns cleanly for up to 15 hours without carbon residue or odor. Price is $9.84. Made by **Otto Bernz Co.,** Dept. N-1, Driving Park & Ramona, Rochester 13, N. Y.

For more details circle NED-693 F7 on enclosed inquiry slip

44 STOCK BORE SIZES

With Cup-Point Socket Set Screws

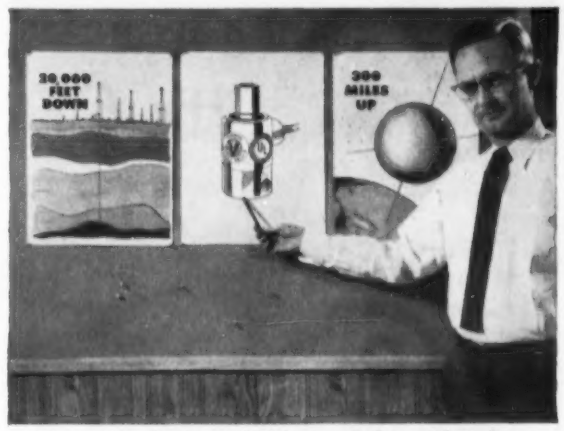
CLIMAX PRECISION SHAFT COLLARS

Climax Shaft Collars are precision bored, machined and plated to assure fit and service. Cup-point socket set screws hold tight. From 3/16" to 3" bore in 1/16" increments. Write today for prices.

Prompt delivery from stock in standard package quantities.

CLIMAX METAL PRODUCTS CO.
863 EAST 140th ST., CLEVELAND 10, OHIO

For more details circle NED-694 F7 on enclosed inquiry slip



Versatile design of Skinner Solenoid Valves makes their applications almost unlimited

Skinner Solenoid Valves have such great versatility that no one knows the full extent of their applications. One is being used in an instrument in Texas oil wells that tells the nature of earth strata 20,000 feet below the surface. Another will be used to help launch the satellite. If you have a problem that a solenoid valve might solve—or if you want data on the full Skinner line—call a Skinner representative or write us at Dept. 436.

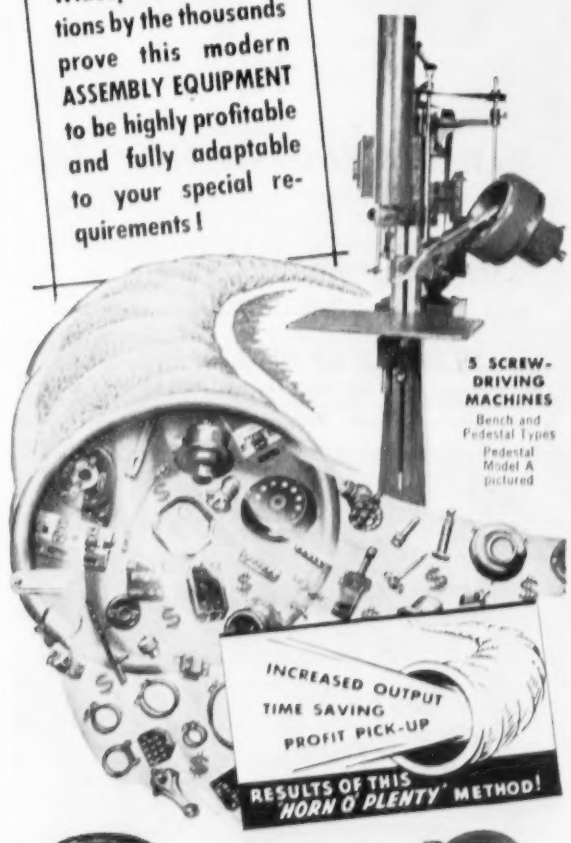
Skinner Solenoid Valves are distributed nationally

SKINNER ELECTRIC VALVE DIVISION NEW BRITAIN CONNECTICUT

For more details circle NED-695 F7 on enclosed inquiry slip

Are You SHARING the production advantages of DPS POWER METHODS?

Widespread applications by the thousands prove this modern ASSEMBLY EQUIPMENT to be highly profitable and fully adaptable to your special requirements!



5 SCREW-DRIVING MACHINES
Bench and Pedestal Types
Pedestal Model A pictured

BOWL FEEDER
Electrical vibratory type to feed parts that cannot be tumbled.

BARREL FEEDER
with stationary ring cover for heavy duty production.

BARREL FEEDER
Popular motorized type for parts requiring critical selection.

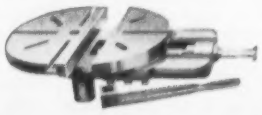
Write for Literature Today!

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16 MICHIGAN

For more details circle NED-696 F7 on enclosed inquiry slip

It's OK Boys

I use the Modern Safety Drill Table for all sorts of jobs. No more bother with clamps, V-blocks, parallels. Instead of spending 20 minutes to make a tough set-up, I just drop in the work and am ready to drill in a couple minutes. I save a lot of time. In fact, the company guarantees that this combination drill table and vise will save its cost on labor alone in six months in your shop.



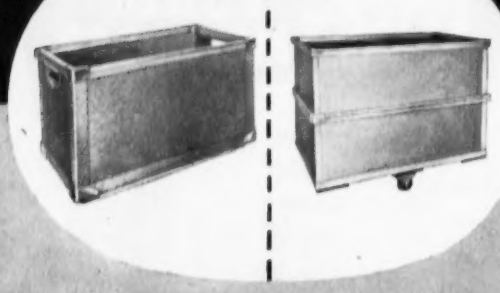
FREE TRIAL OFFER
Try it for 30 days at our expense. Write for illustrated literature and full details.

MODERN MACHINE TOOL CO.
2005 LOSEY AVENUE
Jackson, Michigan

For more details circle NED-697 F7 on enclosed inquiry slip

NATIONAL VULCANIZED FIBRE

KENNETT



MATERIALS HANDLING RECEPTACLES
strong • smooth • light • sanitary
will not dent—crack—corrode

Available in a wide variety of sizes and styles for every materials handling need.

Write for descriptive bulletin "Materials in Motion"—

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE, U.S.A.

For more details circle NED-698 F7 on enclosed inquiry slip

Ideal for Hot Weather Use!

New Efficiency
The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy
FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid
(INDUSTRIAL PRICE ONLY)

FLEXO PRODUCTS, INC. Cleveland 13, Ohio

For more details circle NED-699 F7 on enclosed inquiry slip

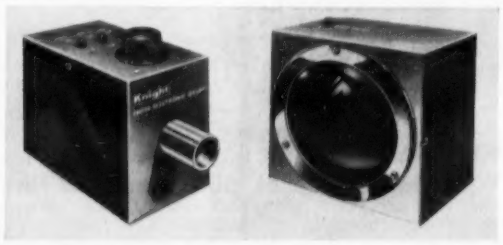
CONTOUR PROJECTOR
movable work table is standard

Micrometer device for horizontal measurements to 0.0002-in. and ample table travel to simplify staging are features of the model 14-6 Kodak contour projector. Suited for receiving inspection operations, it has a movable work table with horizontal and vertical traverse of 3 and 2⅛ in., respectively. Slotted 19¼ x 8-in. work table permits use of standard fixtures for staging a wide variety of parts. Throat clearance is 14¼ in. The 14-in. viewing screen covers a field of 1.4 in. at 10X. Accessory lenses provide choice of 10, 20, 31¼, 50, 62½ and 100X magnifications. Vertical and surface illuminators, six-lens turret, rotating screen with protractor ring, and a mobile base are optional accessories. Made by **Optical Gaging Products, Inc.**, Forbes & Salina Sts., Rochester 11, N. Y.

For more details circle NED-700 F7 on enclosed inquiry slip

PHOTOELECTRIC SYSTEM KIT
photocell unit can be spaced up to 250 ft from light source

Sensitive photoelectronic relay and a powerful, long distance light source are two separate units of the Knight-Kit photoelectric system. Suited for burglar



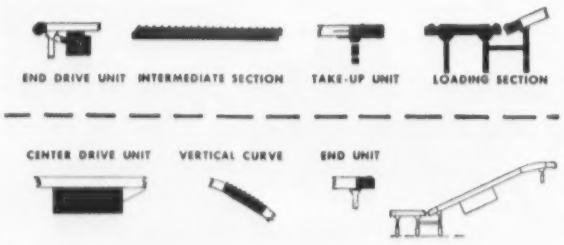
alarm, counter, announcer or safety warning uses, it is supplied with step-by-step instructions and large pictorial diagrams to assist in assembly. Light striking the photocell operates a relay to turn on a light, bell or actuate any other device to which it is connected.

Sensitivity permits operation over distances up to 250 ft from matching light source or, when used with "unseen light" red filter, its effective range is 125 ft. Fast switching action permits use as a counter at rates up to 600 per minute. In the "auto" position it operates an accessory only while the light beam is interrupted. In the "trip" position the relay remains on continuously after the light is interrupted. Distributed by **Allied Radio Corp.**, Dept. NED, 100 N. Western Ave., Chicago 80, Ill.

For more details circle NED-701 F7 on enclosed inquiry slip

Series "G" **UNIBILT** BELT CONVEYORS

7 Basic units which are easily fastened together in many combinations to produce a *customer-assembled conveyor.*



LENGTHS — up to 100'
SPEEDS — 10 to 80 FPM
WIDTHS — 18", 24" & 30" standard

CONSTRUCTION — 6¼" deep formed steel channel — braced and welded throughout.

Equipment is designed to match corresponding width Live Roll and Gravity Roll Conveyors.

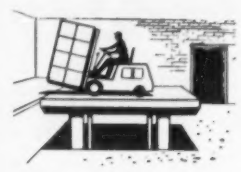
UNIBILT COMPONENTS + SELF-ASSEMBLY = CUSTOM CONVEYORS

Write, Wire or Call
CONVEYOR SPECIALTY COMPANY, Inc.
37 Newport Avenue, North Quincy 71, Mass.

For more details circle NED-702 F7 on enclosed inquiry slip

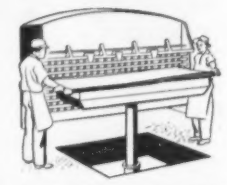
Lift it the low-cost way
WITH DEPENDABLE HYDRAULIC POWER

Load trucks from floor level . . . no dock needed



Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.



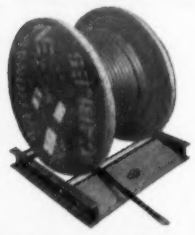
Feed machines, perform other industrial lifting jobs

Rotary **Levelator® Lifts**
ROTARY LIFT COMPANY
Division of the Dover Corporation
1095 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

For more details circle NED-703 F7 on enclosed inquiry slip

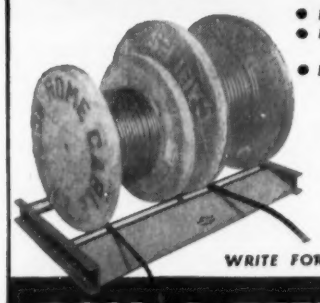
SAVE TIME AND MONEY HANDLING CABLE REELS
Easy, simple, fast! Minimum loading and unreeling effort. Modernly efficient.

Style A 2,000 lbs. cap. for reels up to 28 in. wide. 46.50 f. o. b. Cincinnati.



FOR WIRE, CABLE, ROPE

- Heavy gauge steel frame
- Slanted front
- Ball bearing adjustable rollers
- No jacks
- Handles any reel diameters
- Positive roller lock for unloading



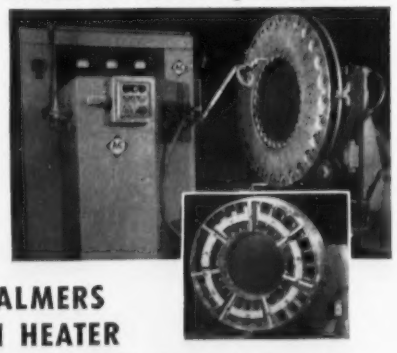
Style B 4,000 lbs. cap. for 2 reels up to 24 in. wide each or 1 reel up to 48 in. wide. 84.50 f.o.b. Cincinnati.

WRITE FOR DETAILS TODAY

ROLL-A-REEL 4630 Reading Road Cincinnati 29, Ohio

For more details circle NED-704 F7 on enclosed inquiry slip

Jet Speed Brazing
at Rheem Manufacturing Company



ALLIS-CHALMERS INDUCTION HEATER
produces FACSIMILE Weldments in Seconds

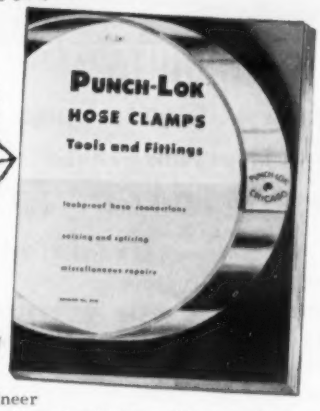
the JOB — *Brazing inlet assembly vanes for J-57 engines.*
An Allis-Chalmers 25-kw induction heater and an *A-C designed work fixture* give Rheem a streamlined brazing set-up. Even in the face of stringent precision requirements, Rheem is brazing at high speed, with each weldment as smooth and perfect as the next.

If you braze, solder, harden, anneal or heat, it will pay you to get all the facts on Allis-Chalmers induction heaters. See your nearby Allis-Chalmers representative or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-C A-5308

For more details circle NED-705 F7 on enclosed inquiry slip

Write for this FREE New 12-page Data Book



It tells
HOW TO SAVE
Time and Money

Every maintenance engineer in industry and construction should have this complete compilation of data on the application and use of Punch-Lok Hose Clamps . . . the perfect clamp for

Pneumatic Tool Hose — Suction and Discharge Hose
Welding Hose — Seizing Wire Rope Ends
Mending Split Posts, Beams, and Planks
Splicing Welding Cable — Hundreds of Other Jobs

7029

Send for this 12-PAGE Data Book TODAY!

PUNCH-LOK Company

Dept. A, 321 N. Justine St., Chicago 7, Illinois.

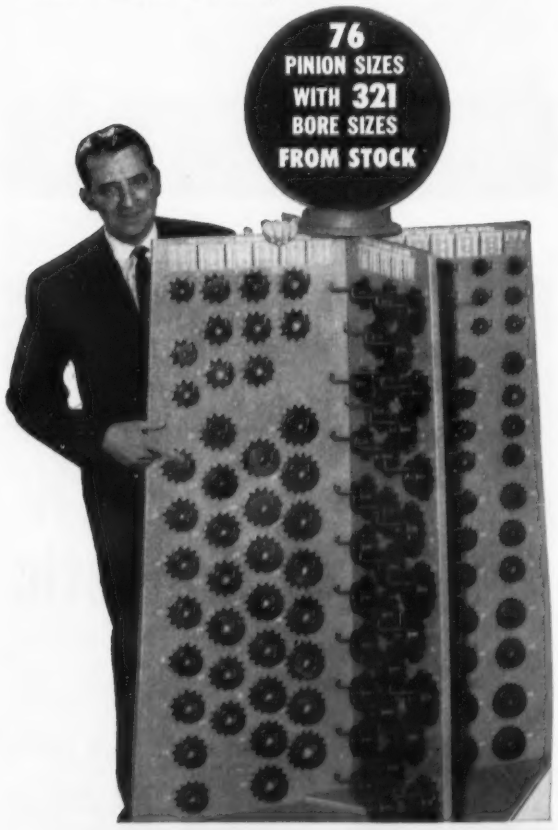
For more details circle NED-706 F7 on enclosed inquiry slip

BOSTON Gear®
READY TO INSTALL
BORED-TO-SIZE SPROCKETS FROM STOCK!
complete with keyway and set screw.

YOU SAVE 50% or more by eliminating all machining costs . . . no reboring, no keyway cutting, no drilling and tapping for set screw.

Why do-it-yourself . . . at double the cost? Be cost-wise . . . buy BORED-TO-SIZE. Your Boston Gear Distributor's stock rack holds 321 different pinions. You get prompt delivery of any size and bore combination you need.

See Catalog No. 56 for complete listings. Boston Gear Works, 69 Hayward St., Quincy 71, Mass.



CALL YOUR BOSTON Gear® DISTRIBUTOR

7124 TRANSMISSION PRODUCTS
"OFF-THE-SHELF" DELIVERY . . .
FROM STOCK — AT FACTORY PRICES

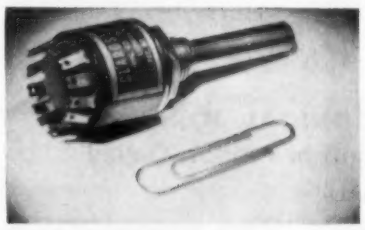
For more details circle NED-707 F7 on enclosed inquiry slip

O-RING KIT
has 166 rings in 20 sizes

Developed principally for maintenance use, this No. 1 O-ring kit contains 166 O-rings in 20 different sizes. These sizes, ranging from 72701 to 72720 inclusive, have been selected to be those most commonly used in industry. Interchange information on all nationally known makes of O-rings is included in the kit which sells for $15.00. Made by **Bearings, Inc.**, 3638 Euclid Ave., Cleveland 15, O.

For more details circle NED-708 F7 on enclosed inquiry slip

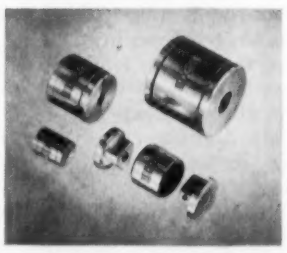
SELECTOR SWITCH
rotary unit has 3 to 12 positions



Multiple switching functions are performed by the series BHM miniaturized rotary selector switch which is only ¾-in. in diameter by ¾-in. deep, including terminals. It is rated at 50 ma at 300 v ac-dc and 500 ma at 30 v ac-dc. All moving parts and contact mechanism are enclosed and switch assembly is sealed. Available are single-pole model with 12 positions, and two, three and four-pole models with 6, 4 and 3 positions, respectively, in either shorting or nonshorting contacts. Made by **Clarostat Mfg. Co.**, Washington St., Dover, N. H.

For more details circle NED-709 F7 on enclosed inquiry slip

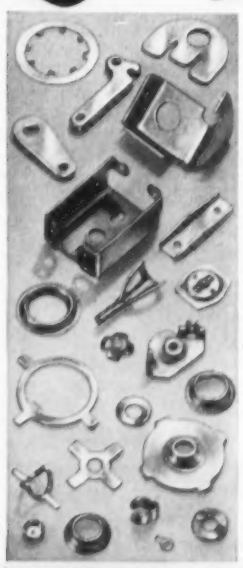
FLEXIBLE COUPLINGS
for fractional horsepower duty



Three sizes added to Flex-Ring line of flexible couplings for fractional horsepower service extend the range of available ratings from 0.127 to 2.36 hp at 500 rpm. Couplings consist of two aluminum hubs which fit into synthetic rubber molded into a replaceable aluminum center ring. Size 1 with ⅞-in. diameter and 3/16-in. bore is rated 0.127-hp at 500 rpm, 0.93-hp at 3600 rpm. Size 2 measuring 1⅜ in. with 5/16-in. bore is rated 0.325-hp at 500 rpm. Previously available size 3 is rated 0.43-hp, while size 4 with 2½-in. diameter and ¾-in. bore is rated 2.36 hp at 500 rpm. Special bores can be supplied. Made by **Main Engineering & Machine Works, Inc.**, Dept. NED, 2818 S. Main St., South Bend 14, Ind.

For more details circle NED-710 F7 on enclosed inquiry slip

Quadriga® means Quality metal stampings



Quadriga specializes in the manufacture of custom-made stampings to close tolerances. Using the most advanced machinery and methods, Quadriga can provide the *exact* stamping required to fill your application—any metal, medium to high quantity runs. Depth of draw to 3½ inches—press capacities to 150 tons.

Quadriga also manufactures custom-made flat, friction, tension and finishing washers as well as wire terminals in thousands of special sizes and shapes.

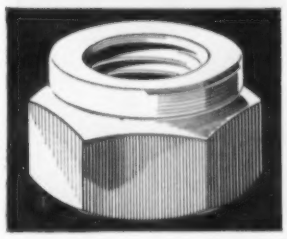
Send b/p or specs for estimate. Request catalog on your company letterhead.

® Reg. U.S. Pat. Off.

THE Quadriga MFG. CO.
221 WEST GRAND AVE. • CHICAGO 10, ILL.

For more details circle NED-711 F7 on enclosed inquiry slip

Specify standard FLEXLOC® microsize locknuts



- One-piece, all-metal construction
- Resilient locking section
- Controlled locking torque
- Lock and stop nut in one
- Every thread carries its full share of the load
- Made to Class 3B fit

Smaller than regular FLEXLOCs of the same nominal diameter, FLEXLOC microsize locknuts make possible smaller mating joints and flanges. Standard materials are brass (plain or cadmium plated) and aluminum (plain or chemically treated), for temperatures to 250°F; alloy steel and 18-8 stainless steel, for temperatures to 550°F. They are available in sizes #0 through #4 at your industrial distributor's. See him for details. Or write for literature, samples, information on other materials. Flexloc Locknut Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

FLEXLOC® LOCKNUT DIVISION — STANDARD PRESSED STEEL CO. SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-712 F7 on enclosed inquiry slip

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY'S Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street — Columbus 8, Ohio

Rubyfluid

For more details circle NED-713 F7 on enclosed inquiry slip

get the facts about forgings...

from the world's largest producer of brass, bronze and aluminum forgings . . .

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN 195

Please send me a copy of your ENGINEERING MANUAL H-58565
NAME
COMPANY
ADDRESS

For more details circle NED-714 F7 on enclosed inquiry slip

STYLE AND SIZES FOR ALL MACHINES ON WHICH THREADS ARE CUT

On Brown and Sharpe, and other automatics

INSERT CHASERS SAVE UP TO 33%

Insert chasers are like safety razor blades: they cost so little that you can throw them away when dull. Or, for utmost economy, you can resharpen them over and over again. Only a flash grind is required. For less than $45 you get a dozen sets of ¾—16 insert chasers, each set ground ready to go. You will be amazed at the quantity of threads they will cut, even to Class 3 specifications, with a minimum of downtime.

FREE: "UNIFIED AND AMERICAN SCREW THREAD DIGEST"

THE EASTERN MACHINE SCREW CORP., 28-48 Barclay St., New Haven, Conn.

For more details circle NED-715 F7 on enclosed inquiry slip

No Ordinary V-Belt!

IT'S THE *Gilmer* SUPER SERVICE V-BELT

Here is the really *heavy duty* belt, made in all standard multiple V-belt drive sizes, that:

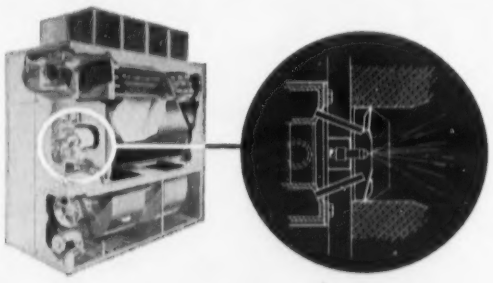
- Saves both money and space (fewer belts; narrower, less costly sheaves).
- Lets you "beef-up" present drives.
- Cures frequent belt failure on tough drives.

Get Gilmer Super Service V-Belts from your NYB&P Distributor. Look for him in the Yellow Pages. *Du Pont's polyester fiber

NYB&P NEW YORK BELTING & PACKING CO.
1 MARKET STREET, PASSAIC, NEW JERSEY

AMERICA'S OLDEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-716 F7 on enclosed inquiry slip



efficient, low cost **HEATING**

the new Dravo Counterflo Heater with PYROJET

PYROJET is the first burner specifically designed for use in direct-fired space heaters. Check the performance and economy features of this revolutionary burner.

- Totally induced draft assures highest combustion
- Positive ignition of No. 5 oil provided by new dual pre-heater . . . another Dravo exclusive
- Automatic switchover on light oil/gas combination models . . . no manual adjustment
- Control options: on-off, hi-low-off, or full modulation

For complete information, write for Bulletin 564.

DRAVO CORPORATION
Pittsburgh 22, Pa.

Dravo representatives are located in principal cities.

For more details circle NED-717 F7 on enclosed inquiry slip

BULK & PARTS CONVEYOR
length increased by adding sections

Portable model 600-Z conveyor can be used to handle small parts in automotive, foundry, mining, food, bottling and other industries. Design prevents sand and residues from building up in the pulleys from seepage under the belt, and conveyor operates in small openings such as floor traps, bin doors and portholes. Riveted sections can be bolted together to expand its standard 12-ft length up to 32 ft. Cleated rubberized belt and a steel mesh belt are available in 6 and 12-in. belt widths. Speed is varied from standard 135 fpm by changing pulleys. Operation can be forward or reverse with inclines to 30 degrees. Made by **American Planter Co.**, 300 Planter Rd., Burr Oak, Mich.

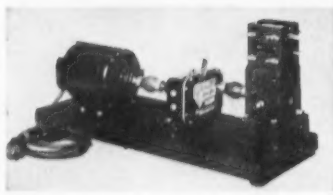
For more details circle NED-718 F7 on enclosed inquiry slip

GLASS TUBE CONICAL JOINT
features built-in rubber O-ring

Built-in rubber O-ring of Asco-Seal standard taper conical joints allows leakproof glass tube connection. Joints are made of borosilicate glass, completely fusible and compatible with Pyrex and other borosilicate glass tubing. O-ring is removable. Joints make it possible to construct glass apparatus which is leakproof at vacuums up to 10^{-8} mm and eliminate the need for high-vacuum greases. O-rings withstand temperatures up to 300° F. Silicone O-rings are available for higher temperature operation. O-ring is protected from attacking solvents by ground tapered surface of the joints themselves. Joints are sold separately, or as a unit with both conical and socket members. Made by **Arthur F. Smith Co.**, Dept. A, 311 Alexander St., Rochester 4, N. Y.

For more details circle NED-719 F7 on enclosed inquiry slip

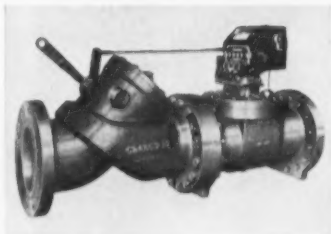
NONCONTAMINATING PUMP
handles liquids, gases, slurries



Principle of moving steel fingers in a wave - like motion over flexible tubing is utilized by the model T-8 pump to move liquids, gases and slurries. Fluid contamination is impossible as it never comes in contact with the pump mechanism. Pump accommodates tubes of ¼, 3/16, ⅛, and 1/16-in. ID with 1/16-in. wall and 1/32-in. ID with 1/32-in. wall. Gum rubber, silicone rubber, surgical gum latex, neoprene or polyvinyl tubes can be used. Capacity range is 0.1 to 250 cc per minute. Standard units include a model 14 Revco Zero-Max speed changer and a 1/12-hp open motor with switch, mounted on an aluminum base. Made by **Sigmamotor, Inc.**, 33 N. Main St., Middleport, N. Y.

For more details circle NED-720 F7 on enclosed inquiry slip

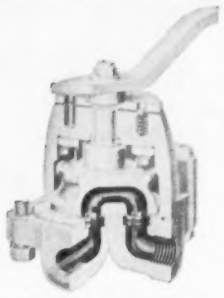
AUTOMATIC 10-IN. VALVE
has hydraulic balanced closing



Entire system in which the Granco 10-in. automatic balanced valve is installed is protected from slamming effects of line-shock upon closing by its hydraulically balanced closing action. It can be furnished with precontrol and linkage so that it automatically shuts off when a predetermined gallonage has registered through an accompanying Duo-Rotor meter. Also usable as a control valve, it can be remotely operated by air, hydraulic, electric or other means. Meters range in capacities from 4300 to 40,000 barrels per hour and in size from 10 to 34 in. Made by **Granberg Corp.**, 1301 67th St., Oakland 8, Calif.

For more details circle NED-721 F7 on enclosed inquiry slip

DO YOU CONTROL YOUR HI-PRESSURE CIRCUITS?



1. Can you shut off flow tightly?

2. Can you throttle gradually?

3. Can you get full flow?

1. Manual Shear-Seal valves (1500, 3000 and 6000 P.S.I.) are leakproof and stay leakproof for years of service with little or no maintenance; no internal port to port leakage in the detented positions and, of course, no external leakage. Sealing qualities actually improve with use, due to wear compensating lapping action of "Shear-Seals."

2. You get excellent throttling, smooth action to any degree of flow without fighting the fluid pressure.

3. Quick as a quarter turn of the handle you can open the full flow (or shut it off) with surge dampening action, because the round tubular passages have no spools or poppets obstructing flow.

BARKSDALE VALVES

5125 Alcoa Avenue, Los Angeles 58, California

Ask for bulletin 5-H, -A and -W.

For more details circle NED-722 F7 on enclosed inquiry slip

in a matter of minutes you can

REPAIR DAMAGED GALVANIZED SURFACES

with AMCO galvanizing compound

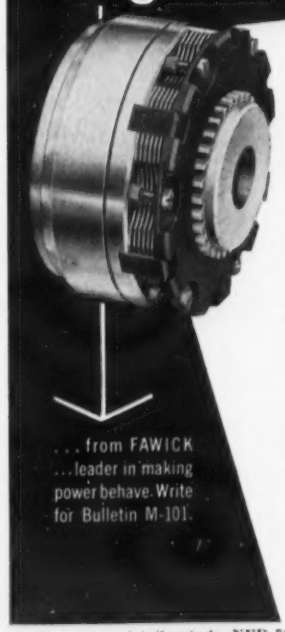
AMCO No. 321 (Powder) flows freely, covers completely, will not damage area around the repair, makes a perfect bond with the base metal and surrounding zinc coating. Comes in 1, 10 and 100 lb. containers.

AMCO No. 322 (Stick) is the same as No. 321 but in stick form for convenience in repairing areas not easily accessible. Ideal for overhead repairs, wire cables, etc. Three sticks per pound.

AMERICAN SOLDER & FLUX CO.
19th and Willard Streets, Philadelphia 40, Pa.
FLUX MANUFACTURERS SINCE 1910

For more details circle NED-723 F7 on enclosed inquiry slip

NEW! World's Finest Magnetic Clutch . . .



FAWICK Magnetic

FAWICK Magnetic Clutches have outperformed every electric clutch in the world! Here's what they offer manufacturers and users of machine tools:

FAST ACTION • LOW COST • EXCEPTIONAL CONTROL • ADAPTABILITY • MORE OPERATING ADVANTAGES • OUTSTANDING DESIGN

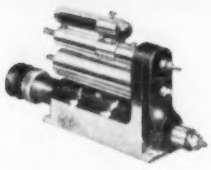
. . . from FAWICK . . . leader in making power behave. Write for Bulletin M-101.

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 CLINTON RD. • CLEVELAND 11, OHIO
In Canada, Fawick Canada, LTD., Toronto

FAWICK Magnetic
INDUSTRIAL CLUTCHES AND BRAKES

For more details circle NED-724 F7 on enclosed inquiry slip

AUTOMATION Within Any Budget!



LYNMATIC DRILL UNIT

Low cost drilling. Rugged, precise, simple design. Adjustable hydraulic feed control, rapid traverse, 2" stroke, 2" centers. Positive depth stop. Automation production or short run versatility.

TOOLMOR AIR CYLINDERS

Extremely compact, rugged, powerful. Standard, ball, swivel, threaded ends. Easier installation. Longer life. Amazing tool versatility.

LYNCO 34 AUTOMATIC AIR IMPACT TOOL

Lightweight, pencil type, versatile, rugged, compact, economical. For scaling, etching, screwdriving, riveting, center punching. Only 9 oz.! 5¾" long, 10,000 B.P.M. Operates only when doing work.

Write for full details to:

BURKLYN COMPANY

Manufacturers of Automation Tooling and Production Devices

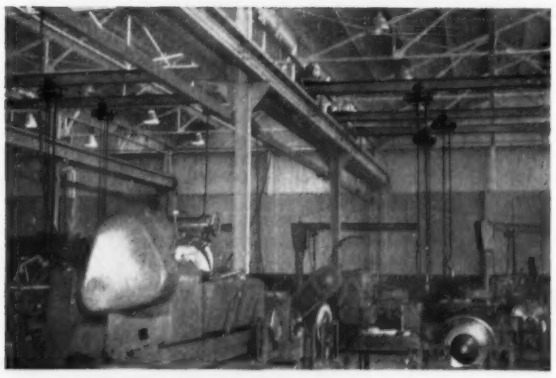
3429 GLENDALE BLVD. LOS ANGELES 39, CALIF.

For more details circle NED-725 F7 on enclosed inquiry slip

SHEPARD NILES

LIFTABOUT-JR.

EASES WORK on your production line



SHEPARD NILES LIFTABOUT-JR.

KEEP PRODUCTION on the move . . .

. . . with a Shepard Niles Liftabout-Jr. This husky, light-service hoist does all your back-breaking lifting . . . enables one man or woman to move more material at lower cost.

Low in cost, the Liftabout-Jr. features dependable wire rope hoisting. Available in 250, 500, 1000 or 2000 lb. capacities . . . parallel or cross-mounted with bolt, hook or trolley suspension.

Write for latest Liftabout-Jr. Bulletin . . . and ask to have a Shepard Niles representative call.

America's Most Complete Line of Cranes and Hoists Since 1903

SHEPARD NILES CRANE AND HOIST CORPORATION

1886 Schuyler Ave., Montour Falls, N. Y.

For more details circle NED-726 F7 on enclosed inquiry slip

STAPLE-NAIL GUN drives over 5000 in one loading

Over 5000 staple-nails can be driven in one loading of narrow - crown pneumatic air guns. They form and drive a ⅛-in. crown staple with a ⅜, 7/16 or ½-in. leg length, depending upon the cartridge used. Model 32 provides a light staple of 0.020 x 0.050-in. wire, while model 52 drives a heavier staple of the same wire. Each staple-nail formed from precut wire lengths coiled in an expendable plastic magazine can have chisel, divergent or special points. Guns are suited for remote operation or ganging in jigs or fixtures for assembly line use. Made by **Swingline Industrial Corp.**, 43-34 32nd Pl., Long Island City 1, N. Y.

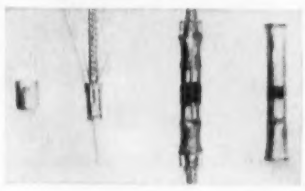
For more details circle NED-727 F7 on enclosed inquiry slip

NUMBERING MACHINE handles up to 20 carbons

Platform type 88 desk model numbering machine has a reversible nonmetallic platen that permits marking original and up to 20 carbons at one time. User has choice of nine interchangeable printing heads, including one for vertical numbering. Features include storage chamber for extra ink pads, 4-in. throat and reversible positioning gages. Made by **Heller Corp.**, Roberts Office Machines Div., 700 Jamaica Ave., Brooklyn 8, N. Y.

For more details circle NED-728 F7 on enclosed inquiry slip

WIRE SPLICES & FERRULES for electronic uses are shielded



Fast, compact splicing can be done with A-MP shielded wire splices and shielded wire ferrules which are color coded to RETMA standards. Splice between two shielded wires is made by crimping the connector on end of each wire with crimping tool or appropriate power tooling. Ground connections are made with the shielded ferrules and similar tooling. Rectangular center window in connector assures positive wire depth in barrel, and inspection ports at each end assure definite braid enclosure. Both splices and ferrules have one piece construction. Made by **AMP Inc.**, Eisenhower Blvd., Harrisburg 13, Pa.

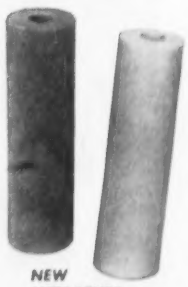
For more details circle NED-729 F7 on enclosed inquiry slip

Only CUNO offers 5 distinct types of Filter Media

EDGE-TYPE • WIRE-WOUND • SCREEN
FIBER CARTRIDGE • POROUS METAL

The Finest in Fiber Cartridge Filters

MICRO-KLEAN



Exclusive "Graded Density" feature makes the *whole* cartridge body available for micronic filtration . . . DOUBLES cartridge life, cuts replacement costs IN HALF! *Two* Micro-Klean types now available: Wool Cartridge for general industrial applications . . . White Cartridge for sparkling, crystal-clear water and liquid food processing. A complete line of standard housings for liquids and compressed air.

Complete Design-Engineering Service

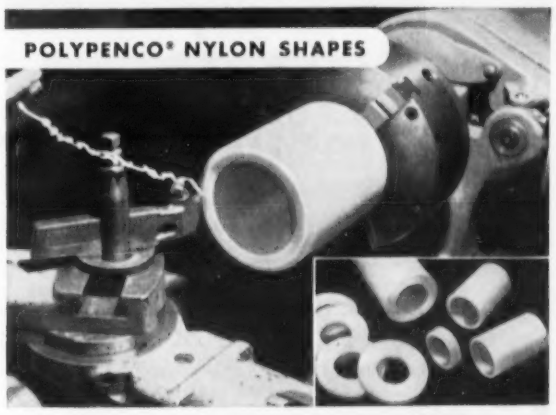
There is a Cuno Field Engineer conveniently located in your area. This specialist offers you more years of experience in removing more sizes of solids from more kinds of fluids.

NEW LITERATURE WRITE TODAY . . . for your free copies of Catalog No. 051 (Wool Ctg.) and No. 53-100 (White Ctg.)

CUNO Engineering Corporation
1706 South Vine Street,
MERIDEN, CONN.

For more details circle NED-730 F7 on enclosed inquiry slip

POLYPENCO® NYLON SHAPES



Long-wearing maintenance parts from high quality nylon

• Your machinists can turn out quality nylon parts from Polypenco stock shapes using standard metal-working tools. Production is rapid, parts are machined accurately to close tolerances.

Your Best Maintenance Material

Nylon gives you the advantage of combining resilience with toughness for long, trouble-free operation. Parts are smooth-surfaced, abrasion resistant, noise dampening and can operate well where lubrication is difficult or impractical.

Adaptability

Polypenco nylon stock shapes also include Rod, Bar, Hexagonal Bar, Strip and Slab in multiple sizes available for immediate delivery from nationwide warehouse stock.

For helpful data on machining nylon, write to The Polymer Corp. of Pa., Reading, Pa.

THE POLYMER CORPORATION OF PENNA.
READING, PENNA.
Export: Polypenco, Inc., Reading, Pa., U.S.A.
custom fabricating service available on request

POLYPENCO

POLYPENCO nylon, POLYPENCO Teflon†, NYLAFLOW® and NYLATRON® GS
†DU PONT TRADEMARK

For more details circle NED-731 F7 on enclosed inquiry slip

Snap-on Gear Pullers

Give you safe, uniform power on every job

Experienced production and maintenance men depend on *Snap-on* gear pullers for fast, safe gear removal.

1. *Snap-on* pullers give you more "locking power" for added safety.
2. "No-tip" pull prevents binding, gives smooth, easy pulling over entire range.
3. *Snap-on* pullers protect gears from damage.
4. Wide range of sizes and types.

Ask your *Snap-on* man for full details or write for free catalog of 4,000 *Snap-on* tools.

SNAP-ON TOOLS CORPORATION
8110-F 28TH AVE. • KENOSHA, WISCONSIN

Snap-on is the trademark of Snap-on Tools Corporation.

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

For more details circle NED-732 F7 on enclosed inquiry slip

QUINCY COMPRESSORS

SERVICE FROM COAST TO COAST

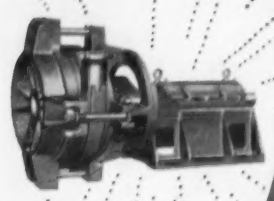
More than one hundred Quincy Authorized Service Depots throughout the country are ready to provide service and genuine factory parts for Quincy Compressors. Adequate stocks of parts are maintained for the wide range of models from 1 to 90 CFM . . . an important consideration in selecting air compressors to be used as a part of your product or for compressed air service in your plant. Write Dept. NED-54 today for descriptive brochure.

Quincy COMPRESSORS

QUINCY COMPRESSOR CO., QUINCY, ILL.

For more details circle NED-733 F7 on enclosed inquiry slip

Choose MORRIS TYPE RX Slurry Pump ... for continuous trouble-free operation



Morris Type RX Pump Features:

- Gland under suction pressure only. Practically eliminates packing troubles.
- To dismantle, only 4 bolts need be removed.
- Impeller and liner may be removed without disturbing piping.
- Right or lefthand rotation. Suction and discharge nozzles rotate to positions in any of 4 quadrants.

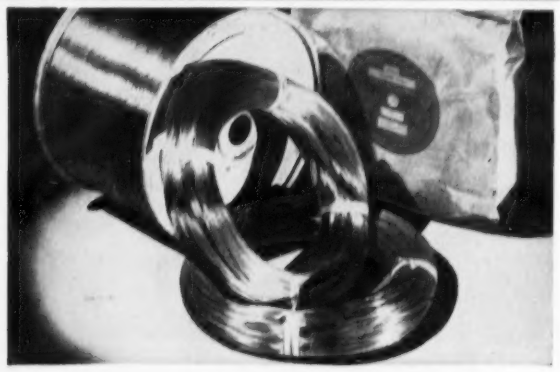
The Morris Type RX Slurry Pump offers end cover liner and separate suction disc, permitting use of special metals at points of greatest wear with minimal cost. It handles caustic or acid mixtures containing abrasives or solids; also ore concentrates, tailings, slag, filter and classifier residue.

Write for Bulletin 185.

Morris Machine Works
Baldwinsville, N. Y.
Sales Offices in principal cities

MORRIS Centrifugal Pumps

For more details circle NED-734 F7 on enclosed inquiry slip



special purpose **WIRE**

• National-Standard Company's WORCESTER WIRE WORKS DIVISION specializes in round and shaped wire of high or low carbon steel in fine sizes. Applications include strings for musical instruments, springs, hose reinforcement, brushes, bob pins, rope, staples, safety pins, and a host of other products.

For details on what we make and on our extensive development facilities, write to Worcester Wire.

Worcester Wire Works Div., Worcester, Mass.

NATIONAL STANDARD

For more details circle NED-735 F7 on enclosed inquiry slip

VERSATILE YARD MACHINE

replaces several special-purpose machines; features exclusive 180° boom swing for tight spots

Pettibone's versatile Speed Swing 6-in-1 yard machine, with crane attachment, was recently selected by a well-known steel company to load steel fence posts in

close quarters. Crane, fork, bucket, dozer, car spotter and snow removal attachments enable Speed Swing to replace several special-purpose yard machines. 2 or 4 wheel power-booster steering, Torqmatic power-shift transmission and planetary axles maneuver Speed Swing into tight spots. The exclusive 180° boom swing gets work done in places which no other machine can touch. Send for Bulletin P-264-NB.

THE NEW YARD SENSATION PETTIBONE SPEED SWING

Pettibone Mulliken Corp., 4700 W. Division St., Chicago 51, Ill. • SPaulding 2-9300

For more details circle NED-736 F7 on enclosed inquiry slip

CONTINUOUS MIXERS

single and double shaft models have capacities to 100 tons per hour

Applications of Anthony continous mixers, available in single and double shaft models, range from basic iron ore treatment to fine chemical powder processing. Concrete, food and chemicals, asphalt, fertilizers, sand and soap chips are typical of the materials which can be handled. Standard model 30, shown, handles ore concentrates at bulk densities up to 200 lb per cu ft at 30 cu yd total mix per hour. Model B mixer for asphalt and other inert ingredients will handle 25 tons per hour of mix and is totally steam jacketed.

Six single shaft mixers have capacities ranging to 60 cu yd per hr; three single shaft blenders will handle up to 60 cu yd per hr; and three double shaft mixers are rated 100, 200 and 400 cu yd per hr. Speed reducer drives from standard or special service motors range to 60 hp. Carbon steel mixers with Ni-Hard type blades are available as well as units with stainless steel troughs and paddle shaft assemblies. Made by **William A. Anthony Engineering Co.,** Dept. N, 6656 Pearl Rd., Cleveland 30, O.

For more details circle NED-737 F7 on enclosed inquiry slip

MAGNESIUM DOCK RAMPS

in up to 16,000-lb capacities

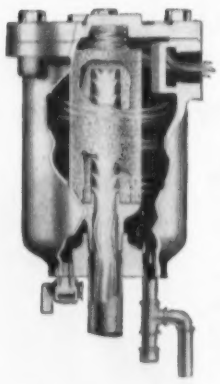
One man can move and position this Lite-Line portable magnesium dock ramp which is 30 ft long and available in 6000, 10,000, 12,000 and 16,000-lb ca-

pacities. Ramp is moved into position on its 16-in. diameter semipneumatic tired wheels. Upper end is raised to proper loading height by manual hydraulic lift. Locking device prevents ramp from pulling away from carrier during use. Strong bridge type girder construction with deep side beams assures minimum deflection under load. Safety tread surfaces and full-length safety curbing are featured. Tow bar allows fork truck hauling, when necessary. Ramps are built either 60 or 70 in. wide by **Copperloy Corp.,** Lite-Line Metal Industries Div., 4116 Brookpark Rd., Cleveland 24, O.

For more details circle NED-738 F7 on enclosed inquiry slip

ADAMS PORO-STONE AIR FILTER,

designed to remove oil, water and foreign matter from compressed air lines with minimum pressure drop.



The R. P. Adams Poro-Stone air filter is engineered to efficiently remove entrained oil, water and pipe scale from compressed air lines. Liquid droplets and solids being carried by the gas stream are first removed by centrifugal action in an annular chamber. Secondary filtration is achieved by passing the air or gas stream through a poro-stone unit. An automatic trap can be provided to discharge the residue from the cyclone chamber.

At rated capacity the filters operate at a maximum pressure drop of only ½ lb., thus insuring delivery of line pressure to the point of consumption.

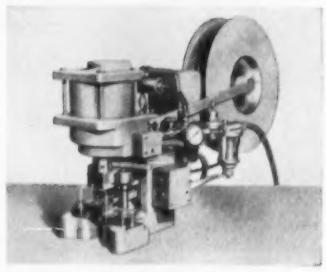
The units require virtually no service or maintenance—thereby insuring continued trouble-free, low cost performance.

ADAMS Poro-Stone air filters are available from stock in sizes to suit your needs. For further information, write today for Bulletin 117, R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *(Advt.)*

For more details circle NED-739 F7 on enclosed inquiry slip

PUT YOUR FOOT DOWN

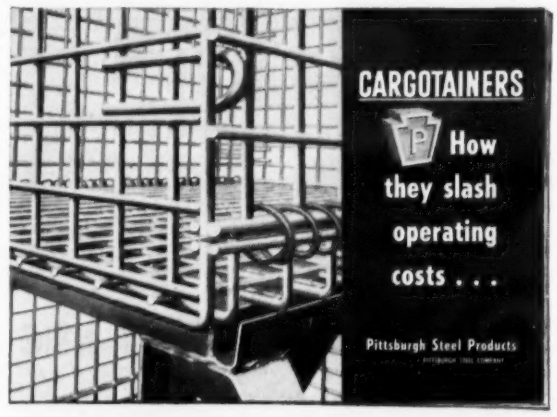
on high cost terminal attachments!



Now you can speed up terminal attachments and cut unit costs with this high speed, foot-switch activated P-M Cold Crimping Machine. Rugged, easy-to-operate machine automatically attaches, crimps, and cuts off P-M strip terminals in one simple, air-pressure operation. Strip terminals are precision-fed through inline, single-unit feeding mechanism. Solenoid trip on air feed and foot-switch activation speed up attachments . . . reduce operator fatigue. Unit specially designed for rapid tool changes. **WRITE FOR DETAILS!**

P-M PATTON-MacGUYER COMPANY
16 Virginia Ave., Providence 5, R. I.

For more details circle NED-740 F7 on enclosed inquiry slip



Free Booklet on Cargotainers®

A new 44-page illustrated booklet gives many case histories of how manufacturers reduced operating costs through use of Pittsburgh Cargotainers in their materials handling. Also given are sizes and capacities for standard and special models of these strong, sturdy welded wire mesh containers, plus information on welded mesh pallets and railroad bulkheads. Write for your copy today.

Pittsburgh Steel Products
a division of **Pittsburgh Steel Company**
Grant Building • Pittsburgh 30, Pa.

For more details circle NED-741 F7 on enclosed inquiry slip

New! TURBO-VAC
KENT-ENGINEERED FOR MORE SERVICE AT LOWER COST

TURBO-VAC costs less to buy . . . handles every cleaning job quickly, from ordinary dry vacuuming and wet pick-up to tough boiler cleanouts.

Powered by 1 H.P. by-pass motor, protected against dust, dirt, water. Volume of 135 cu. ft. of air per min. Removable dust and liquid tank.

- FULL-TIME VACUUM AND BLOWER
- TANK CAPACITIES: ⅔ BU. TO 1⅔ BU. — 5 GALS. TO 10 GALS.
- DOES MORE WORK IN LESS TIME
- CUTS MAINTENANCE COSTS
- HEAD IDEAL FOR USE WITH KENT "DRUM-SEAL"

Write today for complete details

KENT COMPANY, INC.
449 Canal St.
ROME, N. Y.

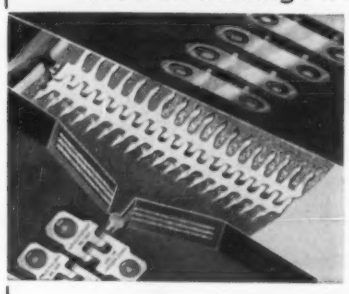
AVAILABLE IN **4** NEW MODELS

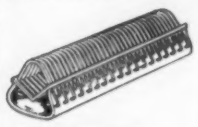
Photo shows new Turbo-Vac Model 75, equipped with foot-operated "autolift," for fast, easy removal of drop-type tank.

KENT

For more details circle NED-742 F7 on enclosed inquiry slip

ARMSTRONG-BRAY CO.
For Belt Joining ANYWHERE





WIREGRIP Belt Hooks
6 sizes on patented double aligning cards no card end waste. Applied with any standard lacer.

HINGE PLATEGRIP Fasteners
for separable conveyor belts of from ⅜" to ½" thickness, any width. Permit instant changes of belt length.

STEELGRIP Flexible Belt Lacing
11 sizes for light conveyor and power transmission belts from 1/16" to ⅝" thickness, any length. Applied with hammer anywhere.

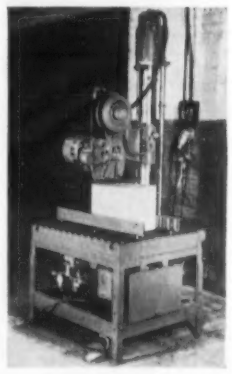
PLATEGRIP Fasteners
make smooth water and dust-tight joints in conveyor belts of any width, from ½" to 1½" thick. Permit natural troughing.

Write for Catalog

ARMSTRONG BRAY & CO.
5362 Northwest Highway • CHICAGO 30, U.S.A.

▲ For more details circle **NED-743 F7** on enclosed inquiry slip ▲

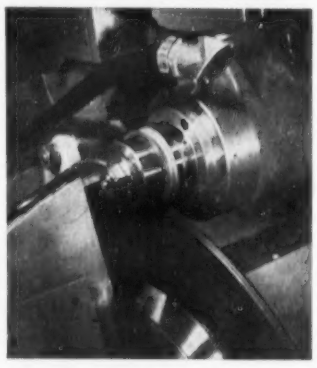
BOX STITCHING MACHINES
no mechanism enters box to close



Stitches cut and formed from a continuous coil of wire are driven into both outer and inner flaps of fiberboard boxes and clinched inside the inner flap by the N6 series box stitching machines. No mechanism enters the box during closure. Called Circuate wire stitching, the method is adaptable for simultaneously closing tops and bottoms of filled boxes (regular slotted or overlapping flaps), sides and ends of filled five-panel folders and two-piece telescoping type boxes, as well as sides, ends, tops and bottoms of outsize containers. Up to 700 average size boxes can be stitched per hour. Machines are easily integrated into conveyor line packaging systems. Models are available for handling boxes from 4 x 4 in. up. Made by **Acme Steel Co.**, 135th & Perry Ave., Chicago 27, Ill.

▲ For more details circle **NED-746 F7** on enclosed inquiry slip ▲

GRINDING WHEEL CUTTER
automatically dresses and shapes wheel while in production



Complete automation of production grinders can be achieved with mounting of this wheel cutter, designed to continuously machine and maintain correct shape of the grinding wheel while it is working. Cutter body is precision formed of powder metal with thousands of diamond particles cemented in. It retains its accuracy for months of continuous service. Cutter is driven at peripheral speed somewhat faster than that of grinding wheel to obtain proper cutting action. Dressing can be intermittent instead of continuous, if desired. Coolant is supplied through nozzles at about 25 psi.

Differential feed arrangement advances grinding wheel and cutter in increments called for by removal of grinding wheel stock by cutter. Thus, correct work size is maintained during life of wheel. Process allows use of resinoid bonded wheels as well as vitrified and other types. Photo shows setup of Jones & Lamson 6 x 36-in. thread grinder with the CDP cutter and PFC dressing mechanism. Developed jointly by Koebel Diamond Tool Co., Detroit and **Jones & Lamson Machine Co.**, 528 Clinton St., Springfield, Vt.

▲ For more details circle **NED-747 F7** on enclosed inquiry slip ▲

Hammond of KALAMAZOO

FOR DEBURRING ECONOMY

CONTACT WHEEL

IRREGULAR SHAPES

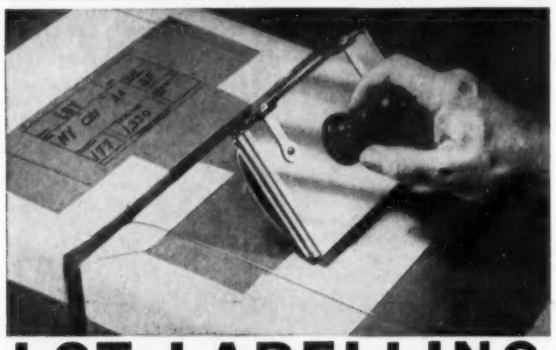
FLAT WORK

It is remarkable how soon these Abrasive Belt Machines pay for themselves in grinding, polishing and deburring.
11 combinations available with or without Duskolector.

"Clip" this ad to your letterhead 20 page catalog will be sent at once.

Hammond Machinery Builders
1623 DOUGLAS AVENUE KALAMAZOO, MICHIGAN

▲ For more details circle **NED-748 F7** on enclosed inquiry slip ▲



LOT LABELLING
Eliminate Shipping Labels! Print Direct!

Quick! Accurate! Easy! Print shipping information direct on cartons, boxes, packages. Eliminate double operation of preparing labels and then pasting them to the containers. Get 1,000 or more clear, sharp impressions from one stencil without re-inking. New FORM-CUT® Stencil has facsimile of your label or shipping form die-impressed into the stencil. Then type or write in address or identification data . . . attach to duplicator . . . and print, like using a rubber stamp. Write for Literature and FREE SAMPLE FORM-CUT STENCIL AND PRINT.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

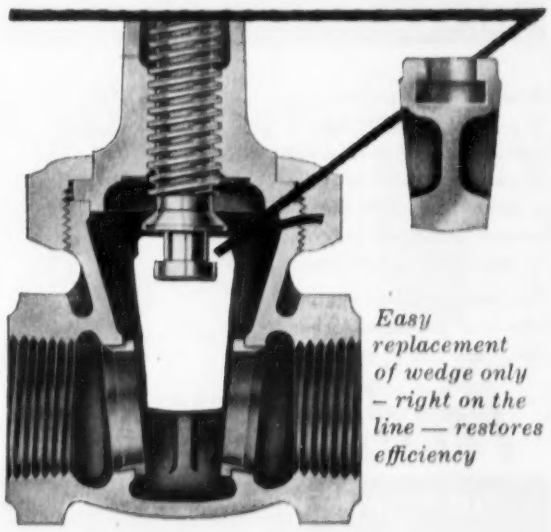
Also for addressing shipping tags and labels . . . prints postcards, menus, forms, bulletins. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). At office or shipping room supply dealers.

OVER 35 YEARS **MULTISTAMP** STENCIL DUPLICATOR ®
MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

▲ For more details circle **NED-744 F7** on enclosed inquiry slip ▲

In JENKINS
Monel-seated Bronze Gates

THE WEDGE TAKES THE WEAR
...and spares the rings



Easy replacement of wedge only – right on the line — restores efficiency

MONEL SEAT RINGS are expanded into body to assure a positive, leak-proof joint. Exhaustive tests show this permanent all-around support of rings is essential to guard against deforming, loosening, or shifting.

THE RENEWABLE WEDGE (bronze or nickel alloy) has excellent wear resistance, but has a lower degree of hardness than the heat-treated Monel rings, which have optimum resistance to erosion and corrosion as well as abrasion. Thus, wear of wedge leaves rings relatively unaffected. When necessary to renew wedge, simply remove valve bonnet, slip old wedge off, and slip on a new one.

GET PRACTICAL, LOW-COST RENEWABILITY in valves for punishing services that require Monel-seated gates. There is nothing simpler, faster, or more economical than Jenkins replaceable wedge design. Jenkins Bros., 100 Park Ave., New York 17.

JENKINS VALVES
LOOK FOR THE JENKINS DIAMOND
SINCE 1868 TRADE JENKINS MARK
Jenkins Bros

▲ For more details circle **NED-749 F7** on enclosed inquiry slip ▲

NEW Cyclo-trell Dust Collector

Here are a few brief facts on Research's new multiple tube mechanical collector. • Collection efficiencies are higher, for a given pressure drop, than other conventional multiple tube collectors. • Gas flow per tube is higher than conventional units. This means fewer tubes per collector and lower total cost for a given capacity.

Higher Collection Efficiency

After testing many types and curvatures of vanes, Research found that this new aerodynamic design resulted in less turbulence, greater centrifugal force and higher collection efficiencies.

Greater Gas Handling Capacity

To develop a higher gas flow capacity than other multiple tube collectors, Research's engineers developed the following design features:

First, by using a 10" diameter inlet tube, instead of the conventional 9" tube, the flow of incoming gas was increased. The next step was to straighten the gas flow as it entered the outlet tube, since a spiraling gas stream creates more resistance than a straight through flow. In the Cyclo-trell this spiral is eliminated, and energy is recovered in the outlet tube by the Outlet Recovery Vanes. By positioning these vanes below the tube, rather than inside the tube, resistance has been further reduced.

This combination of features means greater gas flow per tube, fewer tubes per collector and a lower total cost for a given capacity and efficiency.

Bulletin M gives complete details on design features, efficiency, capacity and detailed dimensional drawings. Write for your copy today.

Research-Cottrell, Inc.

Main Office and Plant: Bound Brook, N. J. • 405 Lexington Ave., New York 17, N. Y. • Grant Building, Pittsburgh 19, Pa. • 228 North La Salle St., Chicago 1, Ill. • 111 Sutter Bldg., San Francisco 4, Cal.

RC 170

▲ For more details circle **NED-745 F7** on enclosed inquiry slip ▲

HOOD Industrial Gloves... made to fit the job

No matter what the job, there's a Hood Industrial Glove that fits it *best*. The style, shape, materials and treatment of every Hood glove are determined by the requirements of a specific kind of work.

Write today for the 1957 Hood Glove Guide — shows how to choose the RIGHT glove for EACH job.

HOOD RUBBER CO.,
a division of the B. F. Goodrich Company
WATERTOWN, MASS.

RUBBER • NEOPRENE • PLASTIC COATED INDUSTRIAL GLOVES

▲ For more details circle NED-750 F7 on enclosed inquiry slip ▲

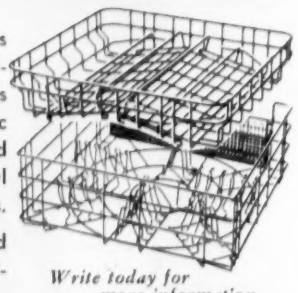
Formed Wire Products

ALL SIZES, SHAPES AND WEIGHTS

FLAT OR ROUND WIRE TO ½" DIAMETER

Made to your specifications in production quantities. Resistance welded at all points of contact. Available in zinc plate with zinc chromate and lacquer or dipped polyvinyl to your color specifications.

Fast, efficient delivery geared with your production schedules.



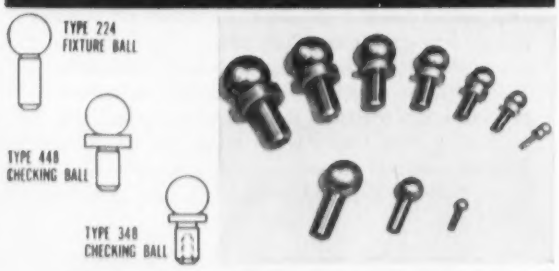
Write today for more information.

Peerless FORMED WIRE PRODUCTS

PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET • LAFAYETTE, INDIANA

▲ For more details circle NED-751 F7 on enclosed inquiry slip ▲

High-Precision Stainless Steel
TOOLING BALLS



- For gage, jig and tool work. Center of ball provides positive reference point for work in any plane.
- Highly accurate. Ball size held to ±.0001" for fixture balls; ±.00002" for checking balls.
- Durable; corrosion-resistant. Made of Type 440-C stainless steel, hardened to 55-58 Rockwell C.
- In stock: Types 224 and 448 in 7 ball sizes, ¼" through 1" by ⅛" steps; Type 348 with ½" ball and 6-32 tapped shank. Other sizes to order.

WRITE FOR price list and ASTE Data Sheet.

INDUSTRIAL TECTONICS, Inc.
3661 Jackson Rd., Ann Arbor, Michigan
18320 Santa Fe Ave., Compton, California

PRECISION BALLS OF ANY SIZE OR MATERIAL
ANTI-FRICTION BEARINGS FOR SPECIAL REQUIREMENTS
TOOLING BALLS — MASTER BALLS — SPHERICAL FINISHING

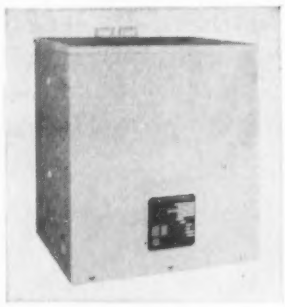
▲ For more details circle NED-752 F7 on enclosed inquiry slip ▲

DUST COLLECTOR
for use with small machines

Self-contained low-cost Dust-Master dust collector can be placed at any small grinding, polishing, buffing, sanding, sand blasting or other dust creating machine. It has a nonoverloading centrifugal blower driven by a ⅓-hp ball bearing motor and a large dust filter bag mounted on a cast aluminum cover that fits any 20 or 24-gal waste can. Unit has electric cord, switch and 5 ft of flexible 3-in. suction hose. It is offered less the can and with optional four-wheel dolly. Made by **Cincinnati Fan & Ventilator Co.**, Dept. ND, Montgomery Rd., Cincinnati 7, O.

▲ For more details circle NED-753 F7 on enclosed inquiry slip ▲

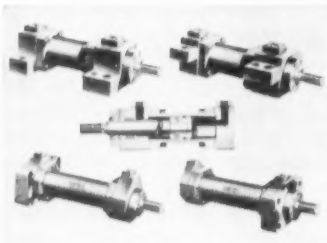
INDOOR-OUTDOOR TRANSFORMERS
Class H insulated, sealed dry units



Normal external case temperature rise of sealed dry type distribution transformers series is only 40° C. Suited for indoor and outdoor use, units have Class H insulation and large cooling ducts. Three bolts mount them to beams, columns or walls. Large wiring compartment; knockouts on sides, back and bottom; and solderless clamp type connectors are incorporated. Ratings of 5, 7½ and 10 kva single-phase 60 cycles, and 9 and 15 kva three-phase 60 cycles, in all standard voltages of 600 v and below are available. Made by **Acme Electric Corp.**, 30 Water St., Cuba, N. Y.

▲ For more details circle NED-754 F7 on enclosed inquiry slip ▲

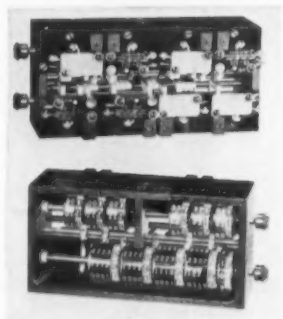
HYDRAULIC CYLINDERS
eight double-acting sizes offered



Standard length of stroke available in line of 3500-psi standard and large-ram double-acting cylinders varies from 36 to 158 in. Longer strokes can be supplied. Cylinders are thick-walled seamless steel and are offered in eight basic sizes from 2 to 8 in. Choice of foot lug, center lug and flange head mountings can be combined or interchanged, front or rear. Straight, angled or multiple steel pipe tap flanges, machined bar steel heads, four automotive type piston rings, dual support bronze bushings and pistons pressed and welded to ram end are features. Adjustable hydraulic cushions are available in either or both heads. Made by **Oilgear Co.**, 1561C W. Pierce St., Milwaukee 4, Wis.

▲ For more details circle NED-755 F7 on enclosed inquiry slip ▲

PROGRAMMER COUNTER
for missile and other control uses



Typical uses for this programmer counter are missile guidance and starting sequence systems. Device closes from one to eight or more switches at selective predetermined settings within a given range. It is a double deck, end drive, predetermined counter for rotary drive at 500 rpm input shaft speed. Setting of numbers is by rotating the cam rings. Ratio is 10 counts per revolution. Programmer counter operates in −60 to 85° C range and conforms to military specifications covering salt spray, humidity, heat and cold and fungus. Impact and vibration resistant models are available. Case measures 5⅞ x 3 x 2½ in. Made by **Durant Mfg. Co.**, 1922 N. Buffum St., Milwaukee 1, Wis.

▲ For more details circle NED-756 F7 on enclosed inquiry slip ▲

Webster DIRECT READING
HYDRAULIC TYPE
FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.
Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

▲ For more details circle NED-757 F7 on enclosed inquiry slip ▲

Now, a Gas Truck That Does More Work on 25% to 30% Less Gas...

Automatic DYNAMOTIVE

The secret of Automatic DYNAMOTIVE'S (Series GLF) proved superior performance lies in its utter simplicity...an engine-driven variable voltage generator supplies electrical power to the drive motor direct coupled to the drive axle. This proved power train *without gears* eliminates slippage and power loss through heat build up. Additional gas mileage is achieved by the inherent over-drive and torque multiplying features of the electric power train. In addition...

Positive Inching Control...precise spotting gives faster, safer handling of loads.

Job Adjustable...directional control can be adjusted...on the job...for instant power or cushion-smooth take off.

Tilt and Lift Controls...optional for foot or finger tip operation.

Full Width Posture Seat...accessible from either side...reduces driver fatigue.

Visibility...high visibility of fork position throughout lifting range.

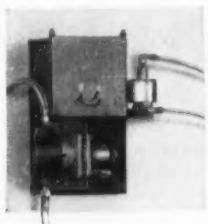
But, see for yourself.....

ask for a demonstration. No obligation...write today.

G.L.F. Capacities: 4,000 to 10,000 lbs. with solid tires...4,000 and 6,000 lbs. with pneumatics. Tractors available in 2,500 and 3,500 lbs. draw bar pull. Factory service available in over 100 cities.

Automatic
Dept. H-7, 61 West 87th St.
Chicago 20, Illinois

▲ For more details circle NED-758 F7 on enclosed inquiry slip ▲

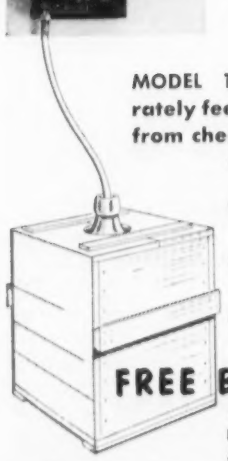


NEW! SAFE!

DIRECT FEEDING FOR LOW COST CIRCULATING WATER CONDITIONING

MODEL 19130 PROPORTIONEER accurately feeds concentrated acids directly from chemical carboys . . .

- Complete package includes foot valve which slips into mouth of small carboy.
- Eliminates excessive handling of corrosive chemicals such as nitric, chromic and sulphuric acid.
- Pumping rates are adjustable from 0.8 to 8.0 gallons per 24 hours to meet system's requirements.
- Choice of pneumatic or hydraulic operation.



FREE BULLETIN... Request Bulletin 1913 for complete data. Write to PROPORTIONEERS, INC., 425 Harris Ave., Providence 1, R. I.

PROPORTIONEERS
DIVISION OF
B-I-F INDUSTRIES
METERS FEEDERS CONTROLS

▲ For more details circle NED-759 F7 on enclosed inquiry slip ▲

KEEP MACHINES RUNNING
...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

3/4" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in 1/2", 3/4", 1", 1 1/4" and 1 1/2" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

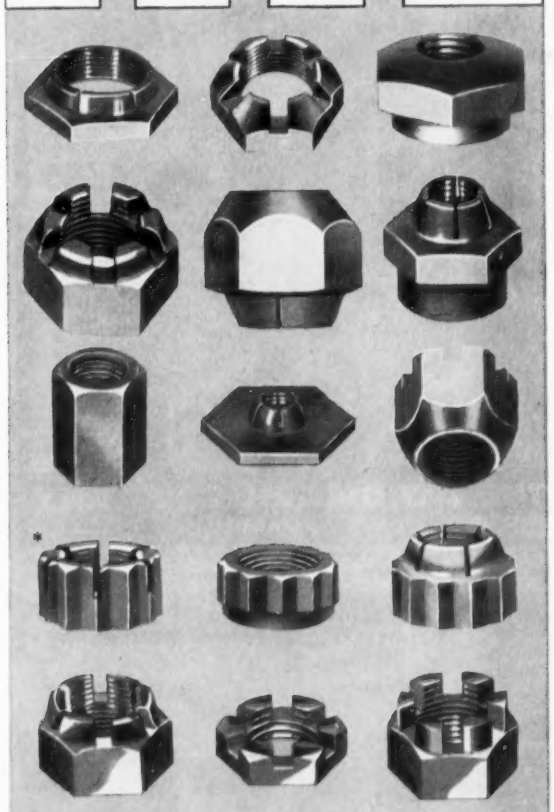
Write today for full details and prices.

DEUBLIN COMPANY
1151 Waukegan Road
Glenview, Ill. (Chicago Suburb)

For more details circle NED-760 F7 on enclosed inquiry slip

SPECIAL NUTS
to specs. 7/16" - 4-1/4" cross flats

special machines + large stock of material x years of experience = speedy deliveries high quality low prices



Here are a few samples made to customers specifications . . Our batteries of special high-speed multi-spindle, automatic machines make possible fast and accurate production of hexagon nuts of non-standard height and special shape from carbon or alloy steel, Naval bronze or other non-ferrous metals; also AN 310 through AN 335 as per latest Airforce specifications. Very often the special nut you require may be similar to one we are already making and a simple modification would result in a price advantage and quicker deliveries to you . . Send us your blueprint and particulars —let us quote on your requirements . . We also have a catalog that contains complete specifications, engineering data and prices regarding our standard nuts.

*Also 12 Pointer brochure, on request.

NATIONAL MACHINE PRODUCTS COMPANY

*Manufacturer of Standard and Special *12 Pointer and Hexagon Nuts . . . "Huglock" and "Marsden" locknuts.*

44231 Utica Rd., UTICA, Michigan

For more details circle NED-761 F7 on enclosed inquiry slip

VINYL COATED HANDLE
for electronic equipment cabinets

Black, gray or Air Force yellow vinyl coatings are available on these aluminum handles for military or commercial electronic equipment cabinets. Handle has heat treated mounting plate and will carry 125 lb without distortion. It swings 180 degrees and lies flat when not in use. Handle is 5 1/5 in. long and 2 5/8 in. high when raised. It can be supplied cut off and threaded at taper point for fixed nonswing mounting on sides or top of cabinet. Made by **United Technical Laboratories, Inc.**, Dept. E, Morristown, N. J.

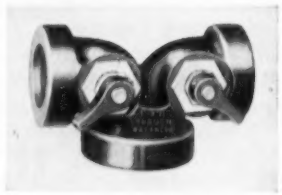
For more details circle NED-762 F7 on enclosed inquiry slip

CIRCUIT BREAKERS
in 100, 225 and 400-amp ratings

Offered in standard ratings of 100, 225 and 400 amp, two or three-pole Tri-Pac circuit breakers contain a modified AB breaker and a current-limiting fuse with three tripping elements. These elements are time-delay thermal, instantaneous magnetic and current-limiting fusible types. Breaker will not single-phase on faults and can be quickly reset. Tripping cause, whether overload, usual fault or extreme fault, is indicated upon resetting of breaker. Plungers in the special fuses tell which phase or phases are in trouble. Interrupting capacity at 250 v dc and 600 v ac is 100,000 amp rms. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

For more details circle NED-763 F7 on enclosed inquiry slip

HOT WATER SYSTEM BALANCER
joins two flow or return lines



Joining of hot water heating system flow or return mains into a single main and balancing the circulation in them is accomplished with a single compact fitting, the Twin-L balancer. Adjusting levers, in line with balancing disks or diverters, indicate the setting. Unit can also be used as a by-pass valve in radiant heat installations to divert return water around the boiler to be mixed with hot water leaving the boiler. Balancer is offered in 1 x 1 x 1 1/4-in. and 1 1/4 x 1 1/4 x 1 1/2-in. sizes in either cast iron or bronze. Installation minimizes fittings and valves required. Made by **H. A. Thrush & Co.**, Dept. TL-57, Peru, Ind.

For more details circle NED-764 F7 on enclosed inquiry slip

WHEREVER SOMETHING STICKS You'll Find A Use, For

IMS SILICONE FLUID SPRAY

ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING

And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

Handy Self Dispensing Can

Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE RD. CLEVELAND 20, O.

For more details circle NED-765 F7 on enclosed inquiry slip

FASTER... SURER... INSPECTION

PRICES START FROM $10.95

Hundreds of uses, FLASH-O-LENS spotlights area it magnifies, speeds inspection, adds accuracy. Battery, plug-in models.

WRITE TODAY for literature showing uses, types, prices

PIKE REG. U. S. PAT. OFF.

Established 1927

E. W. PIKE & COMPANY
498 North Avenue Elizabeth 3, N. J.

For more details circle NED-766 F7 on enclosed inquiry slip

PENCO DESIGNS FOR EXPANSION IN BUSINESS

Unit construction enables Penco Steel Shelving to follow the changing pattern of a growing business. Standard widths, depths and heights of parts and accessories make it easy to change, rearrange, diversify or expand. Write for Catalog NE-57-1.

penco "Perma-Built" STEEL LOCKERS | penco STEEL SHELVING | penco STEEL CABINETS

penco STEEL LOCKERS CABINETS · SHELVING

penco METAL PRODUCTS DIVISION
ALAN WOOD STEEL COMPANY
OAKS, PA.

For more details circle NED-767 F7 on enclosed inquiry slip

why the swing is to TOLEDO PRODUCTION SEATING

Series 8150 Adjustable Posture Chair in use.

- Increases production
- Lifts morale
- Reduces errors caused by fatigue
- Meets "use requirements" at each station

The Toledo Metal Furniture Company offers you the only complete line of comfortable, safe, durable PRODUCTION SEATING. Choose from a wide range of features*, developed from Toledo's 60 years experience, to get exactly the right chairs for your operations.

*FEATURES . . . HEIGHTS (10 basic heights, range: 14" to 32"); Quick-adjustable—Adjustable—Fixed. FEET: 5 kinds to choose. SEATS: Swivel—Non-swivel—Steel — Wood — Cushioned. BACKREST: Straight — Springback — Adjustable.

Series 146 Fixed Height Stool

Free! Valuable PRODUCTION SEATING information. Write for Bulletin 905-A.

Series 5306 Quick Adjustable Posture Chair

Other Series Available

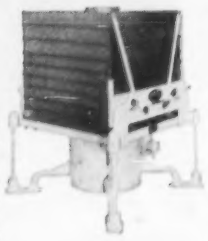
The Toledo Metal Furniture Co.
1020 SOUTH HASTINGS STREET • TOLEDO 7, OHIO

For more details circle NED-768 F7 on enclosed inquiry slip

Sifts huge volumes with Big Savings in Floor Space

RICHMOND SPROUT-WALDRON

Gyro-Whip SIFTER



Noted for huge output, amazingly compact design, and sanitary operation, these sifters are available in sizes ranging from 3-sieve, floor-mounted models to free-swinging super-sifters with 180 sieves. Stainless steel and wood construction. Can sift from 2 mesh up to 325 mesh. They handle any product that can be mechanically separated. Aspirator tips to air wash graded products can be provided.

Write for Bulletin 135-A

Other Sprout-Waldron size classification equipment includes revolving reels, shaking and gyrating screens, air and magnetic separators, and graders. Write for details.

SPROUT-WALDRON

Manufacturing Engineers Since 1866

8 LOGAN STREET • MUNCY, PA.

EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

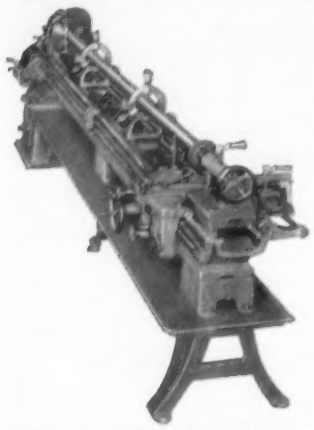
IN/502

▲ For more details circle NED-769 F7 on enclosed inquiry slip ▲

LONG-WORK LATHE

16-spindle speed machine takes up to 129-in. work between centers

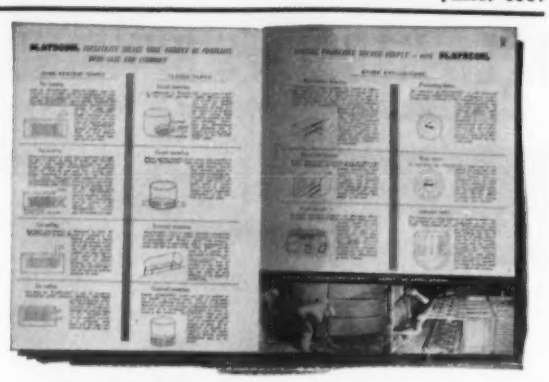
Tubing, shafting and other long work can be machined on this 16-in. by 14-ft South Bend lathe which takes work up to 129 in. long between centers.



Swing over cross slide is 9⅝ in. (11⅛ in. without chip guard) and maximum capacity over bed ways is 16¼ in. diameter. Its 16-speed drive gives spindle speeds from 15 to 980 rpm.

Motor and driving mechanism are enclosed under headstock. Spindle hole takes work diameters up to 1⅜ in. and maximum collet capacity is 1 in. Threaded, cam lock or long taper key drive noses are available. Quick-change gear box provides 48 thread cutting speeds, 48 power longitudinal carriage feeds and 48 power cross feeds. Various accessories are offered. Made by **South Bend Lathe Works,** 307 E. Madison St., South Bend 22, Ind.

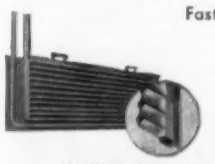
▲ For more details circle NED-771 F7 on enclosed inquiry slip ▲



New Heat Transfer Sketch Book shows how to CUT COSTS all over the plant

Platecoil heat transfer units can be used in many ways, in many tanks, in many plants in many industries. The sketches shown above indicate some of the ways in which Platecoil has been used and can be used. They are featured in a new Platecoil bulletin that also contains many pictures, drawings and information on Platecoil installations and features. Send today for your free copy. Ask for Bulletin P-57.

Fast delivery from stock



PLATECOIL® Division Tranter Mfg. Inc. LANSING 4, MICHIGAN

You'll Find our Catalog in Sweet's Plant Engineering File.

▲ For more details circle NED-774 F7 on enclosed inquiry slip ▲

CUTS A BIG FIGURE in cleaning costs

CLEMENTS

Cadillac QUIK-VAC MODEL 14

The powerful all-purpose Cadillac Quick-Vac makes fast work of cleaning jobs from floor to ceiling. It cleans floors (bare or carpeted) . . . picks up water . . . rids machinery and equipment of damaging dust and dirt.

Vacuums · Blows · Air Sweeps · Sprays

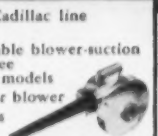
Two-speed power unit can be instantly demounted for use as a hand-type blower-suction cleaner.

EXCLUSIVE 2-SPEED MOTOR (to fit job requirements)

EXCLUSIVE 3-IN-1 HOSE COUPLER* Only one swivel connector is required to connect the hose to the dirt container, or to the power unit inlet or outlet. Saves you time, trouble, money.

DOZENS OF ATTACHMENTS (optional equipment) are available for handling hundreds of cleaning, maintenance, and production jobs.

The Clements-Cadillac line also includes:
- A 2-speed portable blower-suction cleaner and three other job-rated models
- Hot and cold air blower
- Furnace blowers
- Gas blowtorch



See your nearest dealer in Industrial, Automotive, or Janitors' Supplies —or write us direct.

Several territories are available to verified factory representatives.

*Pat. applied for

Industrial Vacuum Cleaner Division

SINCE 1910 CLEMENTS MFG. CO., 6627 S. Narragansett Ave., Chicago 38, Ill.

World's largest producer of blower-suction cleaners . . . specialists in vacuum cleaning equipment for home, business and industry

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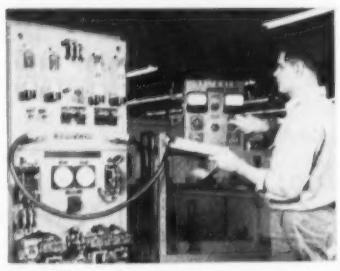
MILL SPEED REGULATOR

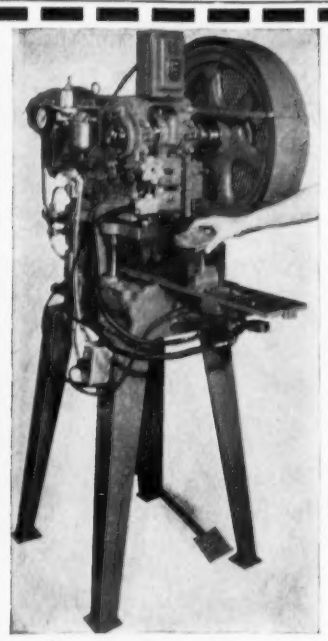
for continuous process equipment uses two sets of thyratron tubes



Drive control on continuous process mills and equipment such as found in paper, rubber, glass and nonferrous metals industries is function of the VSMR dual circuit variable speed electronic mill regulator. It operates on two sets of output thyratron tubes operating in parallel, each of which is capable of handling the output load. Normally they share the load, but in case of tube failure in one half of the regulator, the two tubes in the operable half instantly and automatically carry the entire load.

Use of thyratron tubes does away with circuit tubing and matching. Output section will operate into the motor field or generator field of any drive to accurately control speed, tension and voltage within the rated limit of a single pair of tubes. Both 6 and 10-amp outputs, based on capacity of one set of output tubes, are available. Test fixture is available for checking the various components of the regulator. Made by **Reliance Electric & Engineering Co.,** Dept. SP, 24701 Euclid Ave., Cleveland 17, O.

▲ For more details circle NED-772 F7 on enclosed inquiry slip ▲



AUTOMATIC OR SEMI-AUTOMATIC **NAME-PLATE STAMPING** including **SERIAL NUMBERING**

Only ACROMARK has developed the art of marking name-plates with required data so efficiently as to fit your line of AUTOMATION.

The ACROMARK Model 2A Name Plate Press is a power driven magazine feeding machine with air-feed and Consecutive Numbering.

Write for "5 Ways to Stamp Name Plates" and Prices.

ACROMARK

THE ACROMARK COMPANY

7-11 MORRELL ST., ELIZABETH, NEW JERSEY

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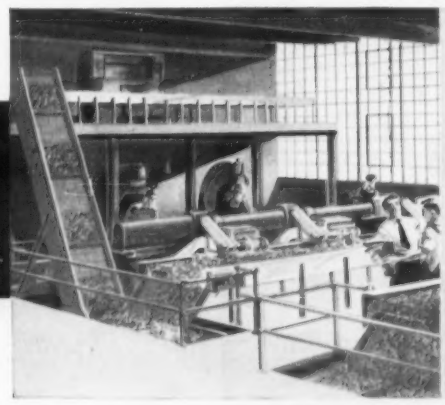
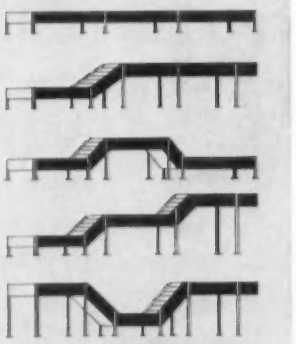
MAY-FRAN CONVEYOR STANDARDIZATION





7322-MF

SAVES YOU MONEY... NOW... AND IN THE FUTURE!

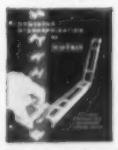
Here is a conveyor program designed for the unusual. NOW . . . you can have a customized conveyor today to meet production needs . . . and with modification, that same conveyor will meet the needs of tomorrow.

The May-Fran conveyor standardization program provides the standard components that can be assembled to form a special or standard conveyor. These same components can be re-arranged at any time to solve production problems in the future.

In addition, standard components mass produced mean conveyor economy right from the beginning.

Here is a conveyor program of standardization program that saves you money now . . . and in the future!

Write today for your copy of Bulletin MF-200



MAY-FRAN ENGINEERING, INC.

1711 Clarkstone Rd., Cleveland 12, Ohio

▲ For more details circle NED-773 F7 on enclosed inquiry slip ▲

Cut Housekeeping Costs... Cut Machine Wear with

PANGBORN
Unit Dust Collectors

Pangborn Dust Control cuts plant housekeeping costs, minimizes machine wear, guards employees' health, aids community relations and reclaims valuable material for salvage. Pangborn Unit Collectors require little floor space, shipped from stock completely assembled.

For details, write PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Maryland.

Pangborn CONTROLS DUST

For more details circle NED-776 F7 on enclosed inquiry slip

NEW MULT-A-RACK CATALOG

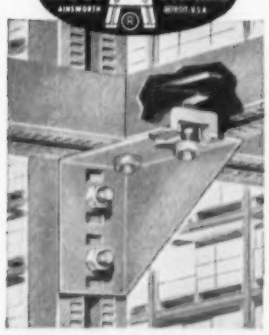
SOLVES RACK PROBLEMS AT A GLANCE!

Now 1800 *standard* Mult-A-Rack designs combine custom built versatility with production line savings. Here's all you do: just glance at the easy to read Mult-A-Rack catalog chart; identify your pallet type; check your load requirement; select rack size and order by number.

No skilled labor is needed to erect Mult-A-Racks. The only tool needed is a hand wrench. Rack areas change from time to time? Takes only a few minutes to disassemble and rebuild Mult-A-Racks. All parts are completely re-usable.

Like to learn more about how pre-engineered Mult-A-Racks save you time and money? Then send today for your free copy of the new Mult-A-Rack catalog — "Pre-engineered and Expandable Racks" — showing 1800 standard different rack designs.

MULT-A-FRAME

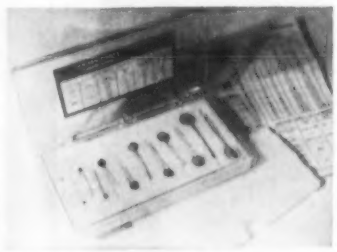


See the secret of Mult-A-Frame strength: Exclusive serrated edges that clamp together to prevent jackknifing. Note too the unique Mult-A-Frame spring T-bolt which holds fittings in place until ready for wrench tightening.

MULT-A-FRAME DIVISION
Ainsworth Manufacturing Corporation
1471 East Atwater St., Detroit 7, Mich.

For more details circle NED-777 F7 on enclosed inquiry slip

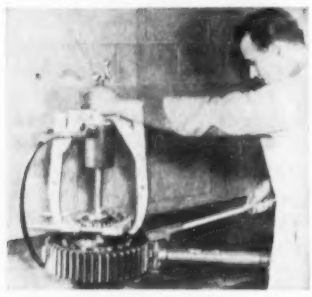
THERMISTOR KITS afford resistances up to 100,000 ohm



Four thermistor engineering appraisal kits designed to meet either a resistance range or a functional application are offered with 10 to 12 experimental components each. Kit A, illustrated, is packaged with low resistance disk type thermistors in the 10 to 500-ohm range. Kit B has high resistance disk and rod thermistors in 1000 to 10,000 and 10,000 to 100,000-ohm ranges, while kit C consists of ¾-in. washer type thermistors and the necessary hardware for experimental purposes. Kit D, packaged entirely with 1000-ohm disk thermistors, enables the electronic engineer to make evaluations on the effect of thermistor mass on its dynamic or static characteristics. Kits sell for about $12.50 each. Offered by **General Electric Co.**, Metallurgical Products Dept., 11163 E. Eight Mile Rd., Detroit 32, Mich.

For more details circle NED-778 F7 on enclosed inquiry slip

HYDRAULIC RAMS & PULLERS also press fit, lift and prestress



Pulling of various tight - fitting shaft-mounted parts can be performed by line of Holl-O-Ram hydraulic rams and pullers. They are also adaptable to press fitting, lifting, pressing, production (through use of special jigs and fixtures) and prestressing. Hydraulic rams (jacks) and attachments are offered as a package. Line consists of three hollow ram models with 20, 30 and 60-ton capacities; set of seven pulling attachments; and three conversion sets for other mechanical and "shop-made" pullers. Smooth, threaded or serrated plunger saddles can be threaded to the hollow ram plungers. Power is furnished by a motor-driven Porto-Power or hand-operated pump in a separate unit. Made by **Blackhawk Mfg. Co.**, Dept. DEN-100, 5325 W. Rogers St., Milwaukee 46, Wis.

For more details circle NED-779 F7 on enclosed inquiry slip

Lubrication Fittings

Stewart-Warner Corp., Alemite Div.—Guide to rapid, easy selection of the right lubrication fitting for every requirement is offered in illustrated 32-page bulletin 38-23. Fittings ranging from the original "pin type" to the latest Red Ball hydraulic fitting, plus special purpose models, are detailed. Lubrication accessories are also included, along with specifications for all units.

For more details circle NED-780 F7 on enclosed inquiry slip

MATCHED to your needs

SURETY INDUSTRIAL GLOVES

Just the right gloves, for the jobs to which you subject hands, are as important as the right production machinery. By supplying gloves with proper hand comfort and assured safety you improve valuable workers' satisfaction.

PROVED more wear per pair

Natural Rubber, Neoprene, Sureseal (HYCAR), Vinyl and all types of Coated . . .

Surety makes many regular and special types of gloves for most requirements and can supply accurate information as to wearing qualities and resistance that will help you select the right gloves for your jobs and control glove costs. Send for a Surety catalog.

THE SURETY RUBBER CO. CARROLLTON, OHIO Dept. N

In Canada: Safety Supply Co., Toronto

For more details circle NED-781 F7 on enclosed inquiry slip

EDMONT CASE NO. 568: For loading 100 pound bags of powdered chemicals, a Pennsylvania company had been using goatskin and other leather gloves that wore approximately 10 shifts. Edmont recommended a rough-finished natural rubber coated glove (Grab-it No. 60W) which wore more than 20 shifts.

Outwears goatskin 2 to 1

No. 60W Grab-It

The Edmont Grab-it glove in the case above outwore goatskin and ordinary leather because it fits the job of handling slippery bags. Its rough-textured natural rubber coating gives positive non-slip grip, wet or dry; makes it the safest general handling glove on the market. Edmont's exclusive pattern assures perfect fit.

Free Offer To Listed Firms: Tell us your operation, materials handled and temperature condition. We will recommend glove and coating that best fit job and supply samples for on-the-job testing.

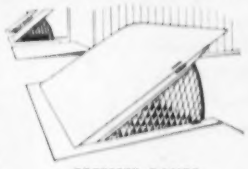
Edmont JOB-FITTED GLOVES

Edmont Manufacturing Company
1240 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

For more details circle NED-782 F7 on enclosed inquiry slip

LOADING DOCK PROBLEMS?

3 easy ways to solve them — and most economically, too!



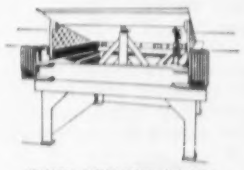
RECESSED RAMPS
Two standard, 60" x 60" and 72" x 72". Two flush-type, 72" x 72" and 96" x 72".

RITE • HITE mechanical loading ramps

10-ton capacity

Practically no maintenance! Rite-Hite *precision counterbalanced* design eliminates troublesome cylinders, pumps, motors, starters, piping, valves, wiring, gears, cables. Rite-Hites are not affected by dirt, debris, extreme heat or cold. Easy to install—furnished complete, no "extras" to buy. All-welded heavy steel construction. You can be sure, when it's a Rite-Hite, it's right. Get full details—write Dept. B-67.

SELF-CONTAINED RAMP
For non-permanent installations. 72" x 72".



TRUCK-ACTUATED RAMPS
Two models, recessed and self contained, 96" x 72".

RITE-HITE DIVISION **LOOMIS MACHINE COMPANY**
133 EAST FOURTH STREET, CLARE, MICHIGAN

For more details circle NED-783 F7 on enclosed inquiry slip

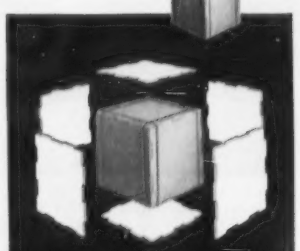
UPSON ENGINEERED

FIBERBOARD

creates a new packing case

no nails, no screws, no wood framing . . .

Upson offers you not only an amazing material, but also a superior cutting service for countless parts and cut-outs. Fiberboard is tough, yet resilient, with superior finishing and sound deadening qualities. We punch it, bevel it, die cut it, delivering the finished part, *ready for production.* Choice of lengths, widths, thicknesses and surface textures. *Send this coupon for our free idea booklet.*



A packing case of unbelievable strength. Can be assembled quickly, easily, and wax-coated when desired. Pieces are cut by us in a variety of sizes. Economical.

UPSON
94% Wood Fibers Laminated for Great Strength

THE UPSON COMPANY, Industrial Division, 266 Upson Point, Lockport, N.Y.
Send me free idea booklet and sample kit.

Name
Company
Position
Address Street City State

For more details circle NED-784 F7 on enclosed inquiry slip

DENISON'S new 2000 psi balanced-vane hydraulic pump for mobile equipment and special machinery is fully described in this brand-new, illustrated booklet. It's yours for the asking. Use the reader service card, or write for Bulletin 200:

DENISON ENGINEERING DIVISION
American Brake Shoe Co.
1192 Dublin Road • Columbus 16, Ohio

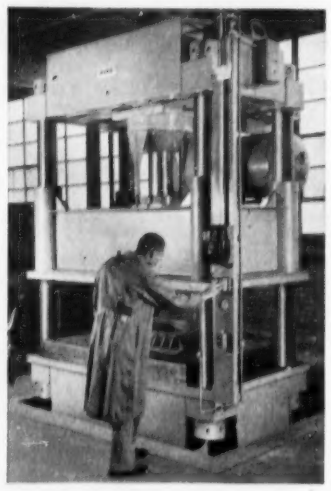
▲ For more details circle NED-785 F7 on enclosed inquiry slip ▲

PROBLEM

to produce low-cost prototypes of a new design without the high cost of permanent tooling

SOLUTION

a single 300-ton Dake Hydraulic Die Tryout Press with temporary tooling



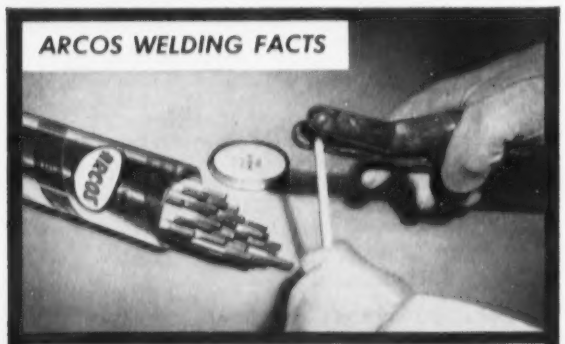
Lack of press facilities is usually a major drawback in die tryout. Chicago diemaker, Cripps Engineering and Tool Co., Inc., has effectively solved this problem with a single 300-ton Dake Hydraulic Press. Now they are able to test all dies before delivery to the customer. Shop down time is held to a minimum . . . production efficiency is uninterrupted. Write today for Bulletin 330 giving full information.

DAKE PRESSES

DAKE CORPORATION
632 Seventh St., Grand Haven, Mich.

▲ For more details circle NED-786 F7 on enclosed inquiry slip ▲

ARCOS WELDING FACTS



How to Meet Every Demand When Welding Low Alloy Steels

Yours for the asking! A complete resume on Arcos Low Alloy Electrodes—grades, analyses, applications—that are produced to the same *rigid quality standards* as Arcos stainless electrodes. In addition, because of Arcos' *long experience* in the field of low alloy welding you are assured of consistent high quality welds.

FREE DATA CHART

Write for your copy of the Arcos low alloy electrode Application Chart.

Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS | *Filler Metal Specialists*

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BORE MEASURING GAGE
features 23-power optical vernier

Quick, easy bore measurements can be made with the Opto-Mike internal measuring instrument which has a 23-power optical vernier. Instrument is inserted at an angle into the bore with measuring anvil retracted. Anvil is released and the Opto-Mike is swept once a few degrees. When withdrawn, true measurement is easily read on the vernier. Making two readings at right angles to one another determines elliptical or out-of-round condition. Instrument is available in matched sets for internal measurements from 0.800 to 6.000 in. Made by **American Gauge Corp.**, 575 Bloomfield Ave., Verona, N. J.

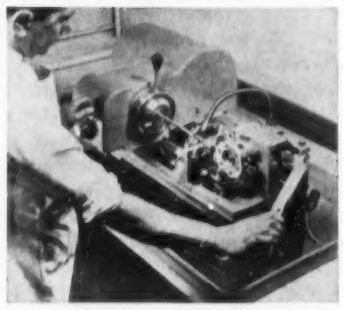
▲ For more details circle NED-788 F7 on enclosed inquiry slip ▲

WELDER WATER SAVER
has three separately adjusted ports

Water consumption on spot, seam, projection and flash welders is measurably reduced by use of a Water Mizer coolant control. Three Hi-Lo monitor outlet ports make possible a different flow from each port, adjusted by a needle valve in each water circuit. Water at line pressure will flow from all ports when a weld is made or when a thermostat indicates need for cooling water. Cooling water is supplied to electrodes, contactor and transformer in required amounts. Pilot lights show when valves are open. Water saver is automatic in operation, easily installed and available in custom models. It is also adaptable to other equipment using water for cooling. Made by **Van Vooren Products**, 2133 Ninth St., East Moline, Ill.

▲ For more details circle NED-789 F7 on enclosed inquiry slip ▲

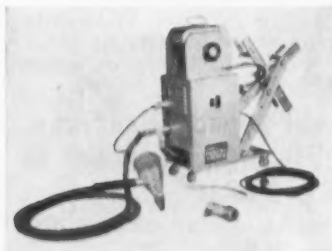
TURRET LATHE
performs variety of operations



Intended for secondary operations, the Cem-Way No. 00 turret lathe enables unskilled personnel to center, cut off, spot face, drill, thread, turn, form, chamfer and pinpoint round workpieces up to ⅝-in. diameter. A single synchronized, cam-actuating lever locks the workpiece for any of the eight operations. Concentricity is held to within 0.0003-in. Lathe is small enough to be portable and can be equipped with a one or two-speed motor to provide three or six spindle speeds. Spindle is mounted on preloaded ball bearings. Distributed by **Cem-Way Sales Co.**, Dept. 55, Box 99, Bristol, Wis.

▲ For more details circle NED-790 F7 on enclosed inquiry slip ▲

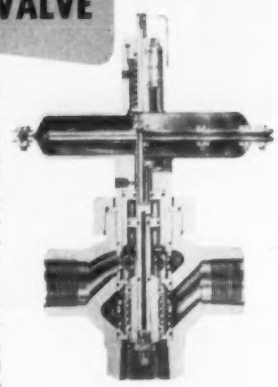
SEMIAUTOMATIC WELDING UNIT
uses any 500-amp arc welder



This compact, lightweight, semiautomatic, submerged arc welding unit is equipped with all controls, cable, wire reel, caster mounted base and carrying handles. It is usable with any arc welder having continuous current up to 500 amp. A gun cable assembly is included with interchangeable flux and open arc welding guns. Wire feed control rheostat and associated electrical components are protected by steel cabinets which can be used as a single unit or separated for remote control. Each has its own carrying handle. Made by **Hobart Brothers Co.**, Dept. 205-h, Hobart Square, Troy, O.

▲ For more details circle NED-791 F7 on enclosed inquiry slip ▲

THREE-WAY THREE-POSITION CONTROL VALVE



Here's the solution to many of your flow control problems. Designed especially for service as a manifold valve in automatic systems, the GOT Type "CPC" Valve is extremely simple in design and construction, with all parts accessible for cleaning, repair or replacement without removing the valve body from the line. The inner valve is pressure-balanced for positive operation, and gives guaranteed bubble-tight closure against gas or liquids. The GOT-developed "huddling chamber" design protects valve seat and disk against cutting, and permits re-sizing without seat and disk replacement. For complete information, write for Catalog No. 256 MVC.

Garrett Oil Tools, Inc.
P. O. BOX 2427 • LONGVIEW, TEXAS
DIVISION OF U. S. INDUSTRIES, INC

▲ For more details circle NED-792 F7 on enclosed inquiry slip ▲

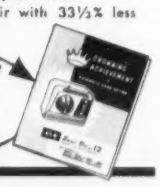
Announcing . . . AMERICA'S MOST MODERN—MOST EFFICIENT

Never Before So Many Exclusive Features

Decorator Styling!—Blends perfectly with today's new fixtures . . . modernizes old washrooms.
Faster Drying!—Increased air flow . . . gives much greater drying efficiency.
Quieter . . . Safer!—Dynamically balanced motor and blower operate smoother and quieter.
Less Maintenance Required!—New timer gives longer service . . . thermostatic motor protection eliminates fuse replacement.
More Economical, Too!—Delivers more warm air with 33⅓% less current consumption.

GUARANTEED 2 FULL YEARS

Write Today For New Brochure . . . SHOWS THE COMPLETE LINE



"Dependable Since 1897"
THE CHICAGO HARDWARE FOUNDRY COMPANY
1967 Commonwealth Ave., North Chicago, Ill.

▲ For more details circle NED-793 F7 on enclosed inquiry slip ▲

Aero-Seal
THE STAR OF HOSE CLAMPS

In hose clamps, the *quality* name today as always is AERO-SEAL. We pioneered the famous precision worm gear and engineered the *extra strength* and holding power. Other clamps may LOOK like AERO-SEALS, but take a *second* look! Compare quality with price cuts and special discounts. Which pays off best? Compare the worm gear construction. Note that AERO-SEAL worms don't wobble. Look at the special rugged interlocking feature that makes AERO-SEALS hold tight – no spot welding. Note the precision gear that applies uniform pressure – does not pinch hose. Stainless steel bands, complete size range for dozens of fastening uses. Insist on genuine AERO-SEALS.

For added quick-attach advantage, get AERO-SEAL Jets. Nothing like them!

Aero-Seal **REGULAR WORM GEAR HOSE CLAMPS**
BREEZE CORPORATIONS INC. 700 Liberty Ave., Union, N.J.

▲ For more details circle NED-794 F7 on enclosed inquiry slip ▲

New Technical Information

B&W ERW Carbon Steel Mechanical Tubing

This new bulletin on B&W Electric-Resistance-Welded Carbon Steel Mechanical Tubing is packed with information for designers, fabricators, and finishers.

It covers analyses of various grades, mechanical properties, size tolerances, gage and cut-length tolerances. It tells how B&W ERW Mechanical Tubing's close tolerances, uniform wall thickness, concentricity and surface finish can save materials and space, improve appearance and save machining time. For your copy of bulletin 419 write The Babcock & Wilcox Company, Tubular Products Division, Beaver Falls, Pa. TA-7014-MLI

B&W TUBULAR PRODUCTS DIVISION

Seamless and welded tubular products, seamless welding fittings and forged steel flanges — in carbon, alloy and stainless steels.

▲ For more details circle NED-795 F7 on enclosed inquiry slip ▲

DUPLICATE HOLES *Automatically!*

WITH THE WALES FABRICATOR-DUPLICATOR

PUNCH ACCURATE HOLES FROM ANY MASTER TEMPLATE

Holes in the template, mounted on the Duplicator, are automatically precision punched in the work piece . . . which is mounted on the Fabricator. Any size or shape hole within the limits of 3½" dia. can be handled on a quick change basis. Punch and die changes are made in seconds so that patterns with various size holes can be duplicated at high speed. This equipment is a complete punching shop in itself . . . fast . . . accurate . . . rugged and priced within the reach of any shop.

WALES MOBILE FIELD UNITS
We'll bring the Fabricator-Duplicator right to your door for a demonstration. Ask for details.

SEND FOR BULLETIN NO 21E
Time studies, specifications illustrations etc., are all yours for the asking

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A UNIT OF HOUDAILLE INDUSTRIES, INC.
AKRON, NEW YORK
WALES-STRIPPIT OF CALIF., SOUTH GATE, CALIF.
WALES-STRIPPIT OF CANADA LTD., HAMILTON, ONT.
"...the Wales-Way is the PLUS-PROFIT way"

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SOLENOID VALVE is normally-closed midget unit

Midget K-27H solenoid shut-off valve features a spring-loaded plunger with soft seat for bubble-tight shut-off, brass bar stock body and a two-wire continuous-duty solenoid. Normally-closed unit is offered with ⅛-in. IPS ports and is suited for use with all common industrial fluids, including water, oil, gas and air at up to 130 psi. Operation can be in any position. Made by **General Controls Co.**, 805 Allen Ave., Glendale 1, Calif.

▲ For more details circle NED-797 F7 on enclosed inquiry slip ▲

FORGED SAFETY TOOLS are nonmagnetic and noncorrosive

Line of forged, nonmagnetic, noncorrosive and spark - resistant safety tools includes adjustable and box wrenches, pliers of various types, pneumatic tools, and air hammer chisels and points. Tools are made of aluminum bronze alloys and find use in refineries, chemical and powder plants and industries handling explosive or inflammable materials. Those fitted with wooden handles have special vacuum cup grip to prevent slippage. Tools can also be used to adjust radar or electronic equipment where outside magnetic influences would affect calibration of instruments. Made by **Ampco Metal, Inc.**, Dept. 6-57, 1745 S. 38th St., Milwaukee 46, Wis.

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END MILLS for titanium, hard-to-machine alloys

"Controlled penetration" end mill provides accuracy and long life in cutting such tough, hard-to-machine materials as titanium, stainless steel and other alloys. Tendency of mills to deflect away from the work at the unsupported end is offset by grooves or notches accurately ground across the flutes. They penetrate into the material and make a uniform cut possible. Grooves are staggered on the flutes, resulting in lobe removal by succeeding teeth. Chips of tough, stringy materials are broken into small, easily cleared pieces. Long flute mills are offered in sizes from ⅜ to 1½ in. Made by **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Ill.

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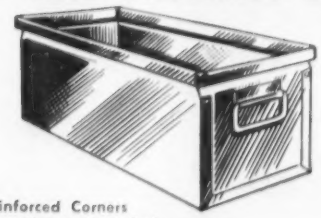
IMMEDIATE SHIPMENT

BAY 800D STACKING BOX



- Reinforced Corners
- Drop Handle Each End
- Spotwelded Construction
- Four Rivets For Extra Strength
- Continuous Stacking Rim All Four Sides
- Stacks With Style 900D of Same Length and Width

Product Number	Width	Length	Height	Gauge Steel	Price Plain	Price Green
801D-18	10"	16"	6"	18	2.46	2.88
802D-17	12"	18"	8"	17	3.27	3.76
803D-18	12"	18"	6"	18	2.77	3.23
804D-17	10"	20"	8"	17	3.29	3.77
805D-18	10"	18"	6"	18	2.58	3.02

Prices F. O. B. Factory or Warehouse Philadelphia
Complete Catalog and Price List on Request
Phone: BAldwin 9-1805

BAY PRODUCTS INC.
3009 N. 16TH STREET, PHILADELPHIA 32, PA.

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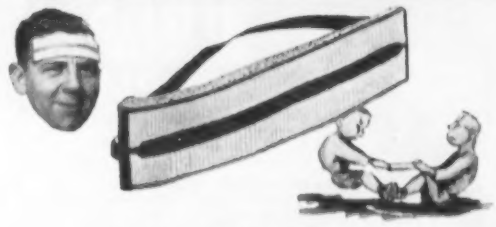
Send for **FREE** sample
The Nation's Sweatband

DRYBROW



Only REINFORCED
Dupont Cellulose Sponge
SWEATBAND
on the market

List price, in boxes of 25:
$4.00 per box, 1 to 39 boxes
$3.50 per box, 40 or more boxes

INDUSTRIAL SAFETY EQUIPMENT ASSOCIATION

AMERICAN ALLSAFE CO., INC.
1247 NIAGARA ST. BUFFALO 13, N. Y.

▲ For more details circle NED-801 F7 on enclosed inquiry slip ▲

TRU-O-SEAL STOPS PIPE THREAD LEAKS

PAT. PENDING

Satisfaction Guaranteed Or Money Back TRIAL OFFER

TRU-O-SEAL Fittings are guaranteed to seal pipe thread connections permanently against all oils, practically all known chemicals and gases; to seal under high pressures or vacuum; to withstand —280° to plus 500° F.; to eliminate "overtightening" damage and pipe dope. Available in ⅛" to 2½" pipe thread sizes.

$10.00 Trial Offer No. 1: eight ⅛", ten ¼", eight ⅜", ten ½" pipe thread TRU-O-SEAL Fittings.

$10.00 Trial Offer No. 2: eight ½", ten ¾", four 1" pipe thread TRU-O-SEAL Fittings.

Send order to

TRU-O-SEAL DIVISION
Flick-Reedy Corporation
2023 N. Hawthorne Melrose Park, Ill.
"Miller Fluid Power" is also a Div. of Flick-Reedy Corp.

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ALTEN Bar Stock

will Cut Expenses
Increase Your
Profits

Made from alloy iron, over 50,000 PSI tensile, and free from imperfections.

Alten Bar Stock has outstanding machining quality —will give high polish. Standard length is 16 inches to 3 feet—all diameters. Other shapes—flats, discs, squares, bushings are also available.

PROMPT DELIVERY
Bar Stock is available for immediate shipment from stock.

ALTEN
FOUNDRY and MACHINE WORKS, INC.
Lancaster, Ohio

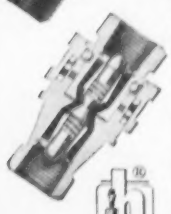
▲ For more details circle NED-803 F7 on enclosed inquiry slip ▲

for each particular type of application...

ALWAYS SPECIFICALLY ENGINEERED ...NEVER MERELY ADAPTED

HANSEN QUICK-CONNECTIVE COUPLINGS

ONE-WAY SHUT-OFF
Shuts off one side of line
Can be instantly connected or disconnected with immediate flow or shut-off of fluid from supply end of line. Available in wide range of sizes, with various types of fittings.



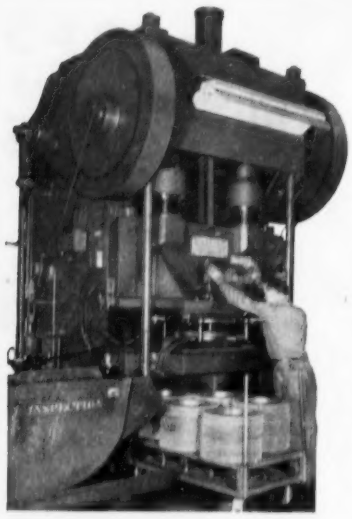
TWO-WAY SHUT-OFF
Shuts off both sides of line
Quickly connected or disconnected. Identical torpedo type valves provide instant shut-off of fluid on both sides of line. Female pipe thread connections from 1/8" to 1". Available in brass or steel.

Also Straight-Through Couplings
Sizes ranging from 1/4" to 2 1/2" carried in stock.

WRITE FOR THIS HANSEN CATALOG
Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

For more details circle NED-804 F7 on enclosed inquiry slip



Clutch plates of sizes 11¾" to 22¾" O.D. are made with this 300 ton Steelweld Press.

2000 CLUTCH PLATES PUNCHED PER SHIFT

Many unusual jobs far afield from bending can be done economically on Steelweld Presses built with simple variations to suit requirements. The machine illustrated provides a low-cost method of punching clutch plates of 11 to 13 gauge metal.

Send for free copy of catalog No. 2011

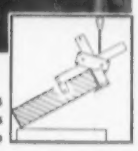
THE CLEVELAND CRANE & ENGINEERING CO.
6637 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

For more details circle NED-805 F7 on enclosed inquiry slip

One-Motion Reel Loading Cuts Time and Costs!

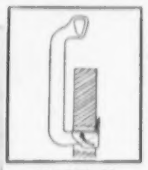
DIXON One-Man COIL GRAB



MODEL A COIL GRAB
Wedge separates coils easily. Lifts and turns in one motion.

The Dixon Coil Grab saves labor and speeds coil handling by enabling one man to lift, turn and load coil on the stock reel with a single, easy motion. Forged steel wedge speeds separation of stacked coils. Positive grip and support eliminate coil damage, assure operator safety. Standard models available from stock. Capacities from 1,000 to 5,000 and 10,000 to 15,000 lbs., for coil widths ¼" to 48".

ALL MODELS AVAILABLE FROM STOCK



MODEL H COIL HOOK
Pivoting shoe supports, turns, and locks coil in position in one motion.

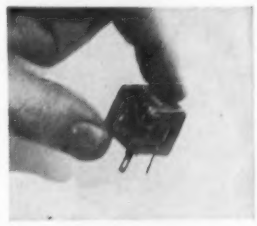
FREE BULLETIN
Illustrates standard models and shows how to handle all coil sizes safely, rapidly, without damage. Write for it today.

DIXON
DIXON AUTOMATIC TOOL, INC.
2302 — 23rd Avenue
ROCKFORD, ILLINOIS

AUTOMATIC PARTS HANDLING AND ASSEMBLY EQUIPMENT

For more details circle NED-806 F7 on enclosed inquiry slip

BLOCKING OSCILLATOR
packaged into ¾-in. cube

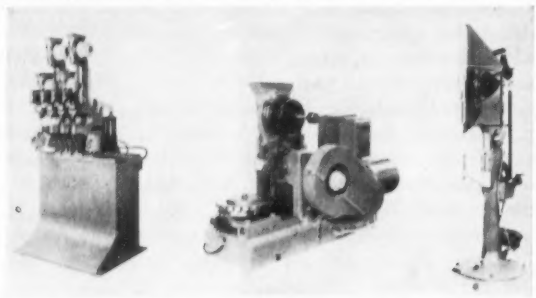


A complete blocking oscillator, including a subminiature pulse transformer, transistor, capacitor, resistor and crystal diode, is packaged in this ¾-in. Pulse-Cube. Heat and shock-resistant epoxy resin-encapsulated cube is adaptable to guided missile and airborne equipment application. Unit produces a pulse of 3 microseconds duration with rise time of 0.06 microsecond. Amplitude is from +6 v peak to −3 v peak. Fixed repetition rates of 25 kc, 1 kc, or a variable repetition rate from 400 cps to 24 kc, are offered. It can be free-running, or externally triggered, and operates in range from −55 to 60° C. Made by **Allen B. Du Mont Laboratories, Inc.**, Technical Products Div., 760 Bloomfield Ave., Clifton, N. J.

For more details circle NED-807 F7 on enclosed inquiry slip

RIVETING MACHINES
line includes multiple-spindle air, long stroke and dial-fixture models

Model FS multispindle pneumatic riveter (left), one of three special riveting machines offered, can have either pedestal or bench type base. It sets tubular



steel rivets from ⅛ to 0.06-in. diameter and from 3/32 to 9/16-in. long, and can be made with two to six rotary hopper-fed heads. It has 7-in. throat and 1¼-in. stroke for production operations on sheet metal and light structures.

Long stroke model TM (right), rivets in deep channel sections, deep-drawn parts, or between ribs or fins of structural sections. Quick-change raceways accommodate rivets from ⅛ x ⅛ in. to 3/16 x 1 in. Throat depth is 9½ in. Flywheel is driven at 140 rpm through V-belt by ⅓ hp, 1140-rpm motor.

Model RT-52 automatic dial-type machine is primarily used to rivet ball bearing retainer rings. Table cycles 360 degrees through 6 to 36 stations. Retainers from 2 to 6½ in. pitch diameter can be handled. Also driven by ⅓-hp motor, this model handles small rivets up to 1/16 in. and tubular rivets up to 3/32-in. diameter. Machine compensates for material thickness variations. Made by **Milford Rivet & Machine Co.**, 929 Bridgeport Ave., Milford, Conn.

For more details circle NED-808 F7 on enclosed inquiry slip

This heavy duty caster combines economy, strength

Bassick "S99" caster with optional plunger swivel lock.

Bassick Series "S99" all purpose, heavy duty casters are designed for loads up to 1500 lbs. apiece. They'll take the abuse of power pulled trucks or assembly line dollies year in and year out.

They have grease retainer cups, double ball race design, heavy gauge formed steel construction. Result: extreme ease of swivelling, quiet operation and long life. Rigid models available, too. See both at your local Bassick distributor's or write The Bassick Company, Bridgeport 5, Conn. *In Canada:* Belleville, Ont. 7.35

Bassick A DIVISION OF STUART SW CORPORATION

For more details circle NED-809 F7 on enclosed inquiry slip

NICE BEARINGS Help Advance X-RAY DESIGN

New demands for X-ray tube capacity have been answered by Machlett Laboratories, Inc., Springdale, Connecticut. The Machlett DYNAMAX design incorporates a rotating anode mounted on highly specialized ball bearings made by NICE BALL BEARING COMPANY.

The success of the rotating anode principle is largely due to the development of suitable bearings. The NICE Bearings used by Machlett are made to exacting tolerances from special heat resisting steel and silver lubricated for use in high vacuum*. They have proven to be the complete answer to all requirement problems.

Now Available! New NICE Cat. No. 190

*Machlett U.S. Patent No. 2,815,280

Machlett DYNAMAX "25" Rotating Anode X-RAY Tube (with plastic display case)

Cutaway View of Ball Bearing Mounted Rotating Anode and Motor Armature Core

Picker X-Ray Corporation Table and Tube-stand Incorporating Machlett DYNAMAX

Special NICE Bearing used at bottom of Rotor. A similar Special Bearing is mounted at top of Rotor.

NICE

NICE BALL BEARING CO.
NICETOWN • PHILADELPHIA • PENNSYLVANIA

For more details circle NED-810 F7 on enclosed inquiry slip

Lower Costs with Laminated Plastics by Richardson

Lower production costs can be yours with Richardson plastic laminates—which have high strength, light weight, high electrical and heat insulation, good machinability and other properties.

Richardson laminates are used more and more in TV sets, radios, printed circuits, communication equipment, bushings, bearings, gears, and for countless other parts.

Available in sheet, rod, or tube form. Paper, fabric, or glass base. Fabricated parts. Wide selection of grades meet virtually every electrical and/or mechanical requirement.

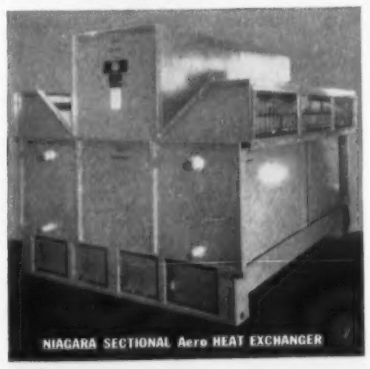
If you are re-designing an old product or planning a new one, send a print or ask for Richardson engineering service. Write —or phone Chicago, MAnsfield 6-8900 . . . no obligation, of course.

Write to Dept. 21 for Richardson LAMINATE CATALOG.

The RICHARDSON COMPANY
2798 Lake Street, Melrose Park, Ill. • Chicago Phone: MAnsfield 6-8900

For more details circle NED-811 F7 on enclosed inquiry slip

WATER SAVING WITH TROUBLE-FREE COOLING EQUIPMENT



NIAGARA SECTIONAL Aero HEAT EXCHANGER

NIAGARA Aero HEAT EXCHANGER

•

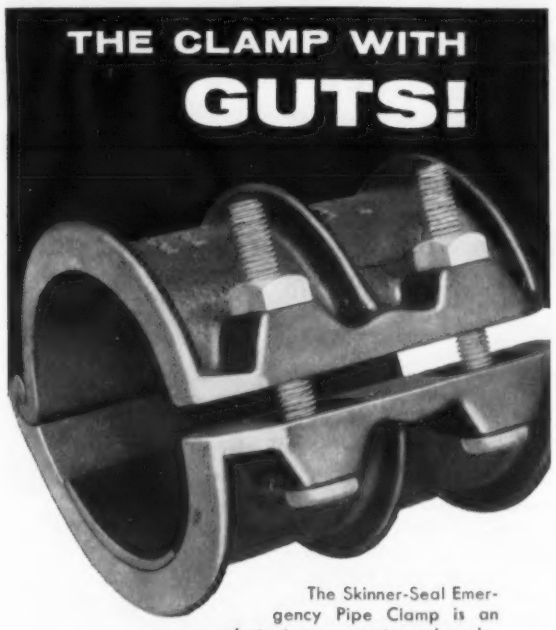
Convenient Units Up To 30,000,000 BTU Capacity

Cools your jacket water for engines or process equipment or electric apparatus. Your closed system keeps free from dirt or maintenance troubles. You can cool air, gases, chemicals, quench baths, plating baths, welding machines, extrusion and drawing machines. You get real precise temperatures, save rejections, lower production costs. Use NIAGARA AERO HEAT EXCHANGER cooling with atmospheric air . . . saves water, pumping, piping and power; quickly saves its costs. Write for Bulletin No. 132.

NIAGARA BLOWER COMPANY
Dept. ED-6, 405 Lexington Ave., New York 17, N. Y.

For more details circle NED-812 F7 on enclosed inquiry slip

THE CLAMP WITH GUTS!



The Skinner-Seal Emergency Pipe Clamp is an instant, permanent repair under any operating condition. No pressure too high. Anyone can apply in a few moments. Made in all sizes, ½" to 12", for steel and C. I. pipe. Carried in stock by 1300 industrial distributors!

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

For more details circle NED-813 F7 on enclosed inquiry slip

FREE LATEST STAYNEW FILTER INFORMATION

Complete engineering and application data on all Staynew Filters is yours for the asking. Be sure to specify Bulletin Number.

INTAKE FILTERS Bulletin 100
PIPE LINE FILTERS Bulletin 200
LIQUID FILTERS Bulletin 300
AUTOMATIC FILTERS Bulletin 500
DRY TYPE FILTERS Bulletin 600
VISCOUS PANEL FILTERS Bulletin 700
ELECTROSTATIC FILTERS Bulletin 400

ALL STAYNEW FILTER INSERTS, like the radial fin type illustrated, are easily cleaned, easily replaced for continuous, efficient filtration at low cost.

Special filters are also available . . . consult your local Dollinger representative. Dollinger Corporation, 49 Centre Park, Rochester 3, N.Y.

STAYNEW FILTERS DOLLINGER
FILTERS FOR EVERY INDUSTRIAL NEED

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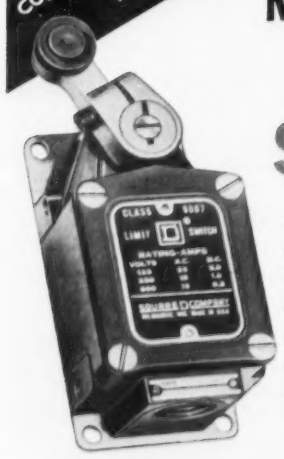
YOU GET eleven CONTACT ARRANGEMENTS IN one

with this NEW Machine Tool LIMIT SWITCH!



- oil tight
- easy stocking
- easy mounting
- rugged mechanism
- 80 degrees overtravel
- 11 contact arrangements
- simple adjustment

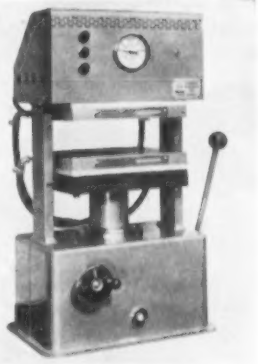
Write for Bulletin SM-239. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-815 F7 on enclosed inquiry slip

HYDRAULIC BENCH PRESS exerts ram pressure of 40,000 lb

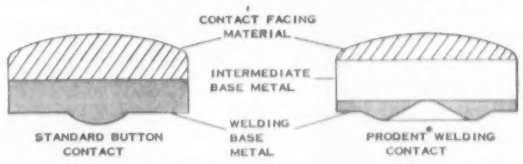


Platen measuring 9½ by 12½ in. is incorporated in the model PW hydraulic bench platen press. It has cast-in cooling coils and 1500-w Calrod heaters in each platen that are controlled to 600° F by individual Fenwal thermoswitches and relays. Ram pressure is adjustable up to 40,000 lb, with a 4½-in. stroke and a 4-in. ram. Opening of 4½ in. can be increased 4 in. by removal of an adaptor. Unit has a two-stage manual hydraulic pump or a motorized hydraulic system. Two and three-platen 115 and 230-v electrically heated, steam heated and no-heat models are available. Made by **Pasadena Hydraulics Inc.**, 1429 N. Lidcombe, El Monte, Calif.

For more details circle NED-816 F7 on enclosed inquiry slip

PROJECTION WELDING CONTACTS in 0.062 to 0.375-in. diameters

As a result of their configuration, Prodent welding contacts decrease welding flash blowouts, improve thermal and electrical conductivity and in-



PROJECTION WELDING CONTACTS OF TRIMETAL CONSTRUCTION

crease effective weld areas. Configuration promotes flat seating and parallel welding. Contacts are recommended for welding to thin springs and thin mounting supports. They are available with facings of silver alloys, silver-cadminum oxides, precious and noble metals and several sintered metal compositions. Contacts with trimetal construction are also available, and consist of a contact facing material, an intermediate layer of base metal and a projection welding surface. Diameters range from 0.062 to over 0.375-in. Made by **Metals & Controls Corp.**, General Plate Div., 1500 Forest St., Attleboro, Mass.

For more details circle NED-817 F7 on enclosed inquiry slip

Electrical Wires & Cables

Western Insulated Wire Co.—68-page illustrated catalog "Electrical Wires and Cables" contains design and performance data on complete line of neoprene and rubber jacketed cords and cables, type RR cables and asbestos insulated wires. Technical information section includes copper wire specifications, current carrying capacities, decimal-fraction conversion and related engineering data.

For more details circle NED-818 F7 on enclosed inquiry slip

WATCH YOUR SPEED

with a Reliance Speed Indicator

This all electric unit consists of three parts, a pick-up, an indicator, and a two wire electric connecting cable. Standard scales are available, reading from 0 to 750, 1500, 2000, 2500, 3000, 4000, and 5000 rpm. Special scales are available that measure in units other than revolutions.

Reliance Speed Indicators may be mounted either directly to the shaft, or offset. An electric connecting cable up to 300' long may be used for remote readings. A-1667

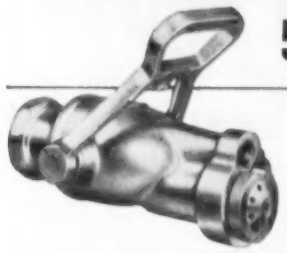
LIST PRICE COMPLETE $126.20 Including pick-up, indicator, mounting parts, and 10' of electric cable. Quantity discounts.

Write for Bulletin A-2405

RELIANCE ELECTRIC AND ENGINEERING CO.
DEPT. 246A, CLEVELAND 17, OHIO
Sales Offices and Distributors in principal cities

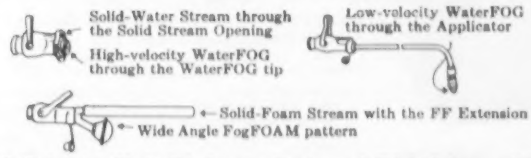
For more details circle NED-819 F7 on enclosed inquiry slip

ROCKWOOD SG-60 WaterFOG nozzle is 5 nozzles in 1



The lightweight Rockwood SG-60 WaterFOG Nozzle *eliminates "special" or single-purpose nozzles!* It actually does the work of five nozzles to put out fires faster, safer and more economically.

HERE'S WHAT WE MEAN:



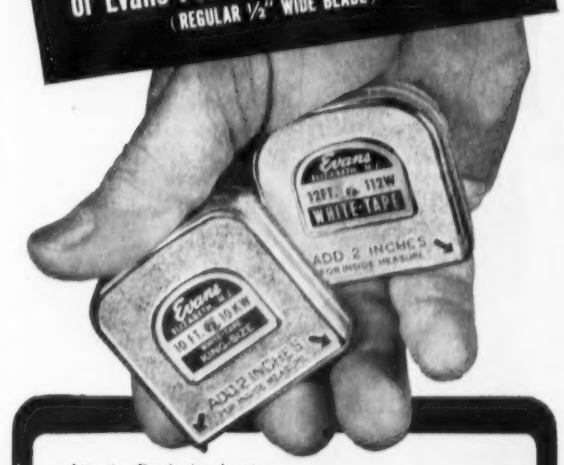
FF Extension Unit. Discharges Rockwood FOAM in a solid stream or as FogFOAM. *Bayonet Piercing Applicator.* Has a hardened steel cutting tool attached to tip, for piercing through partitions, into interiors, etc. Discharges low-velocity WaterFOG. *Long Extension Applicator.* Discharges low-velocity WaterFOG in an umbrella pattern, smothering fire without causing turbulence to flammable liquids. Write for complete, illustrated information to Rockwood Sprinkler Company, 2121 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses

For more details circle NED-820 F7 on enclosed inquiry slip

TO PURCHASING AGENTS ONLY!

FREE! Your Choice . . . Evans KING SIZE 10-ft. White-Tape (EXTRA-WIDE BLADE) or Evans Pocket 12-ft. White-Tape (REGULAR ½" WIDE BLADE)



Attention Purchasing Agents:
We make this startling offer to introduce your company to Evans' superior King-Size and Pocket White-Tapes, the finest measuring tapes manufactured.
Simply fill in the coupon below and we'll send you, absolutely free and without any obligation, your choice of either our King-Size 10-ft. ($2.39 retail) or Pocket 12-ft. White-Tape ($1.89 retail)! (Offer limited to one tape per purchasing agent.)
We feel that once you try Evans Tapes, you'll never buy another brand. Here's why:

EVANS KING-SIZE
10-ft. ¾" Wide Steel Tape Stands Up Straight for Easy One-Man Measurements.

The 33% wider blade (full ¾") stays straight up—will not bend when making measurements. Chrome plated zinc die-cast case. Free belt clip for handy carrying and Free Tenite Utility Case. Self-adjusting sliding hook for accurate inside-outside measuring.
Also available in 6, 8, 12-ft. lengths.

All EVANS Tapes are marked so your men don't have to figure!

EVANS 12-ft. Pocket WHITE-TAPE

Measures a full 12 feet—eliminates adding two measurements as with shorter tapes. Regular ½" wide blade. Chrome plated zinc die-cast case. Self-adjusting sliding hook for 100% accurate inside or outside measurements. Free transparent Tenite Utility Case.
Also available in 6, 8, and 10-ft. lengths.

Evans RULE CO., Dept. 129, Elizabeth, N.J.
Please send me free sample of (check one)
☐ King-Size 10-ft. Steel Tape ☐ Pocket 12-ft. White-Tape
☐ Send catalog page on Evans Tapes with custom name-plates for gifts to our customers carrying our advertising message.
My two sources of supply for steel tapes are:
1) _____
2) _____
Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For quick, efficient service call your Industrial Distributor. He is your most economical source of supply.

Have You Considered Using

paper TUBE SHAPES

Thousands of uses have been found for SONOCO paper tubes—from thread protectors to cores for paper and cloth. Manufactured by spiral, parallel and drawn process, tubes are available as follows:

- LENGTHS: any length that can be shipped
- DIAMETERS: 1/8" to 48" I.D.
- WALL THICKNESSES: from single paper sheet to almost any thickness desired.
- FINISHES: smooth, rough, ground, flocked, colored stock, wrapped with parchment, cellulose or novelty paper—inside liners of plastic, glassine, or cellulose. Can be impregnated for strength; perforated and made with metal ends—printed inside or outside, or on the ends—colored lacquer or dye tips available for identification.

We invite your inquiry! Write today!

SONOCO PRODUCTS COMPANY
MAIN OFFICE — HARTSVILLE, S. C.
MYSTIC, CONN. • AKRON, IND. • LOWELL, MASS. • PHILLIPSBURG, N. J.
LONGVIEW, TEXAS • PHILADELPHIA, PA. • LOS ANGELES, CAL.
GRANBY, QUEBEC • BRANTFORD, ONT. • MEXICO, D. F.

For more details circle NED-821 F7 on enclosed inquiry slip

Select The Right Glove...from PIONEER's Super-Market of Hand Protection

A Stanzoil Black All Neoprene . . . . . 7 sizes, 5 lengths, 3 weights
B Stanzoil Red All Neoprene . . . . 3 sizes, 10½" length, sheer wt.
C Whitecap White All Neoprene. . . . 3 sizes, 10½" length, light wt.
D Stanzoil White All Neoprene . . . . . 7 sizes, 4 lengths, 3 weights
E Stanzoil Knit-Lined Neoprene . . . . 5 sizes, 3 lengths, 2 weights
F Stanzoil Flock-Lined Neoprene . . . 3 sizes, 10½" lengths, light wt.
G Pacemaker Black Neoprene Coated Flannel . 2 styles, 4 lgths., 2 wts.
H Pacemaker Red Neoprene Coated Flannel . 3 styles, 3 lgths. 2 wts.
I Stanflex Blue Plastic Coated Jersey. . . . . 5 styles, 2 sizes
J Stanflex Knit-Lined Red Plastic . 4 sizes, 11" length, medium wt.
K Sheergrip Natural or Neoprene Latex . . 9 sizes, 3 lengths, sheer wt.
L Nimble Fingers Pylox® Vinyl . . 3 sizes, 10½" length, extra sheer

Mail This Coupon Today!

The PIONEER Rubber Co.
234 Tiffin Road (Line)
Willard, Ohio, U.S.A.

Pioneers in Hand Protection — For Over 35 Years

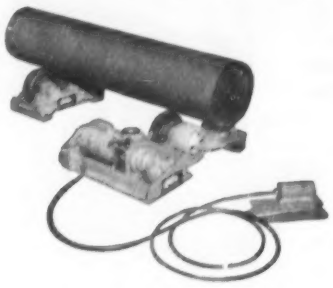
Please send me:
☐ The name of my nearest PIONEER Glove Distributor.
☐ 1956-57 PIONEER Industrial Glove Catalog.
☐ Hand Protection Clinic glove recommendation for job described in enclosed letter.

Firm _____
Address _____
City _____ Zone ____ State _____
Signed _____

For more details circle NED-822 F7 on enclosed inquiry slip

PORTABLE TURNING ROLLS
power and idler units carry 1500 lb

One variable speed powered rotator and one idler rotator comprise the M-15 portable turning rolls, used to rotate pipe and cylindrical shapes for flame cutting and welding operations. All wheels on both units have rubber tires. Capacity of two units is 1500 lb total. More than one idler can be used for long lengths of pipe or where capacity must be increased.

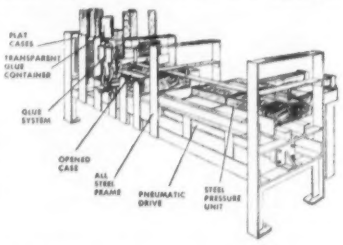


Wheel centers on both units are fixed, requiring no adjustments for 2 to 24-in. pipe. Also available is an adjustable spacing unit for work up to 8 ft diameter. Made by **Webb Corp.**, Reed Equipment Div., Dept. NED, Webb City, Mo.

For more details circle NED-823 F7 on enclosed inquiry slip

CASE OPENER & FORMER
custom built to case size

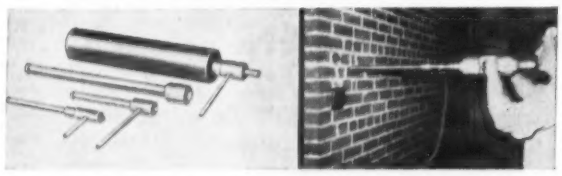
Formnumatic case opening and forming machine will automatically select a case from its magazine, advance, open and form it, then fold in the bottom flaps. It is pneumatically operated. Adhesive can be applied to seal the bottom flaps, if desired, allowing the machine to deliver the empty case ready for packing. Machine is custom built to accommodate any case size. A 16 x 11 x 5-in. case for example, is handled by a machine that is 9 ft long and 22 in. wide. Made by **Schroeder Machines Corp.**, Box 1123, Syracuse 1, N. Y.



For more details circle NED-824 F7 on enclosed inquiry slip

DIAMOND CORING BITS
drill through brick, granite, tile

Used in portable drilling equipment, Drillco thin-wall diamond coring bits drill through brick, granite, tile or reinforced concrete aggregate. The three lines



offered are used to cut holes in existing floors or walls for conduit and piping, or to extract test cores of highways or buildings. Cement block is drilled at rate of 1 fpm while 1 ft reinforced concrete aggregate is drilled in 5 to 8 minutes. Bits are cooled with water swivel. The 100, 200 and 300 series bits for heavy-duty, medium-duty and light-duty use respectively, are offered in ¼ through 6½-in. diameter sizes. Made by **Diamond Products, Inc.**, 323 Prospect Ave., Elyria, O.

For more details circle NED-825 F7 on enclosed inquiry slip

ABRASIVE BELT MACHINE
uses various wheel sizes, platens

The 24 x 24-in. table of the model TTS - 2500 Table Tongue sander tilts 45 degrees to front or rear for inside or outside diameter angular grinding or deburring. The belt head has a 6-in. vertical adjustment and uses 90 - in. abrasive belts ranging from ¼ to 2 in. wide. Twenty - six contact wheels from ¼-in. wide by ⅞-in. diameter to 2¼ in. wide by 3 in. diameter are available, along with platens for each belt width. Belt tension is automatically controlled. Made by **Bush Mfg. Co.**, 909 N. Rochester Rd., Clawson, Mich.

For more details circle NED-826 F7 on enclosed inquiry slip

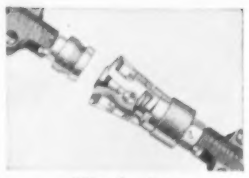
EXTRA HEAVY locking, safety type quickly detachable

Valve Coupling Locked in "On" Position

VALVE COUPLINGS

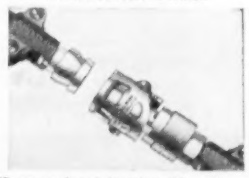
give the operator complete control of the air line at any point

Operator can shut off air and change tools quickly. Newly improved design permits the coupling to be locked in either "On" or "Off and Exhaust" position. Air in tool is exhausted to atmosphere automatically, preventing accidents. Pressure tight leak-proof construction — but free swiveling to avoid kinking the hose. For any application involving line air to 250 psi.



Valve Coupling Unlocked and Disconnected

Valve Coupling Locked in "Off and Exhaust" Position

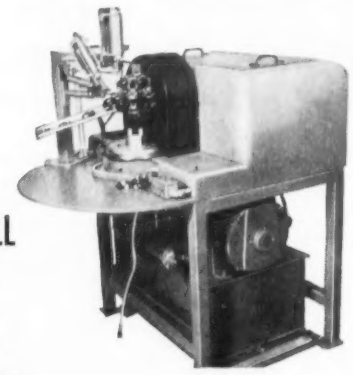


Write for Bulletin No. 551

Quick-As-Wink®
Air and Hydraulic Control Valves and Pressure Specialties
C. B. HUNT & SON, INC.
2105 E. PERSHING ST. • SALEM, OHIO

For more details circle NED-827 F7 on enclosed inquiry slip

GENESEE HYDRAULIC FIELD COIL WINDER FOR ALL RECTANGULAR FIELD COILS IN ELECTRIC MOTORS



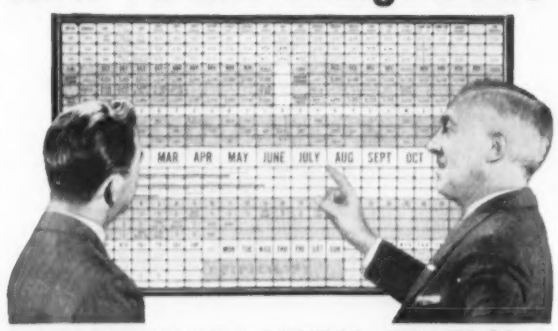
1. Automatic turn counter, easily adjustable.
2. Level winding with fluid power.
3. Tandem winding and automatic cut-off for multiple or single coils with automatic ejection.
4. Instantly adjustable speed and torque control of winder. Maximum speed: 3600 rpm.
5. Positive positioning of flyer, with one turn accuracy, requiring no clutches or brakes.
6. Open-type jaws for ease of taping on the machine, to prevent loosely taped coils.
7. Automatic tape dispenser available.
8. Nylon wire guides and pulleys to protect insulation and eliminate wire twist.

Send sample coils for recommendation of model required

GENESEE MACHINE BUILDERS, INC.
1732 HUDSON AVENUE, ROCHESTER 17, NEW YORK

For more details circle NED-828 F7 on enclosed inquiry slip

How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Complete Price $49.50 Including Cards

FREE 24-Page Illustrated Booklet N-400 Mailed Without Obligation

GRAPHIC SYSTEMS 55 WEST 42ND STREET NEW YORK 36, N. Y.

For more details circle NED-829 F7 on enclosed inquiry slip

STRAIGHT-LINE POWER
to fit your specs—

Schrader® Air Cylinders

Wherever you require straight-line force, you'll find there's a compact Schrader Cylinder that will deliver it economically . . . dependably. You can eliminate manual operations in thousands of applications—and at the same time speed production and improve safety.

If you design equipment, consider Schrader Air Cylinders' superlative ability to deliver controlled power exactly where and when you need it.

There's a cylinder to fit every application. Push, pull, reciprocating, and clamping designs . . . with or without cushioned stroke . . . and in a wide range of sizes, stroke lengths, and mountings. Power, speed and timing are easily adjustable. Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
454 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-830 F7 on enclosed inquiry slip

WHAT IS ENGINEERING TIME WORTH TO YOUR COMPANY?

This is a question only you can answer. But certainly engineering time is one of the most valuable ingredients of our modern economy. To save engineering time means to save money directly and indirectly for your organization.

The Filmsort system for engineering drawing control is one of the most effective means available to you for conserving engineering time. Microfilmed drawings filed in Filmsort cards provide space conservation and accessibility—the latter making it possible for your engineers to have at their fingertips the filmed drawing for reference purposes. With Filmsort there is no waiting for costly prints to be made—at a loss of valuable time. The engineer need not wait for drawings to be brought from a storage site or laboriously located and handled in original form.

In the larger organization, volume may demand mechanized sorting and reproduction. In the smaller company, filmed drawings may be mounted in standard 3 x 5 file cards, indexed for manual filing. In either case, the Filmsorted drawing is quickly and easily accessible to the engineer for reference or enlargement copies . . . copies which can be made direct from the unitized filmed drawings using any one of several photocopy or photographic methods.

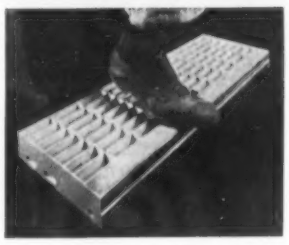
Let your local Filmsort Distributor help you to install the Filmsort system for engineering drawings best suited to your needs. Don't waste *more* costly engineering time.

FILMSORT®
FILMSORT DIVISION
DEXTER FOLDER COMPANY
A Division of Miehle-Goss-Dexter, Inc.
Pearl River, New York

For more details circle NED-831 F7 on enclosed inquiry slip

New Processes and Materials

CAST ALUMINUM STAIR TREAD affords safe footing, long life



Stairs subject to extreme weathering or corrosive atmospheres can be made safe for industrial workers with this cast aluminum stair tread. Aluminum oxide abrasive bonded to aluminum plate provides slipproof front surface. Cast in one piece, tread can withstand loads in excess of 3000 lb. As-fabricated, smooth, sanitary and marine finishes are offered. Sizes range from 24 to 42 in. length by 10-in. standard width. Special widths are obtainable. Rounded, joint-free corners do not readily collect dirt. Made by **Aluminum Co. of America,** Dept. NED, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

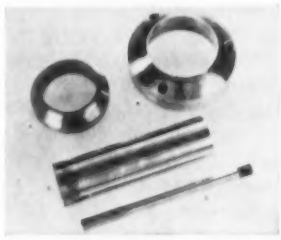
For more details circle NED-832 F7 on enclosed inquiry slip

GREASE & GRIME REMOVER facilitates water rinse cleaning

Applied to greasy, grimy surface, Strip-Grease solvent penetrates and causes deposits to break up and flush away when rinsed with water. The concentrate can be used as is, or mixed with such solvents as kerosene or fuel oil. It can be applied to farm, marine, shop and yard engines and equipment to remove grease and grime, and can also be used to remove grease spots from cement floors and clean soft paint from brushes. Quart, gallon, 5-gallon and drum container sizes are offered. Made by **Graymills Corp.,** Dept. C, 3717 N. Lincoln Ave., Chicago 13, Ill.

For more details circle NED-833 F7 on enclosed inquiry slip

CARBIDE-STEEL BONDING tools withstand severe service



Union of carbide to steel by the Weldalloy method will stand up under the most punishing punch-press production without the Weldalloy separating from either carbide or steel. Weldalloy A is used as an intermediate joining material between carbide and steel, forming a good cushion between the two. Hardness can be varied from Rockwell C20 to C50. Core rods for dies for powder metal parts are produced this way. Weldalloy B alloys are used as casing materials to reinforce carbide inserts. They machine readily and range in hardness from Rockwell B80 to B100 as molded. They are used as jackets around carbides or as cores. Process can be applied to any grade of carbide. Developed by **Welded Carbide Tool Co.,** 62 Colfax Ave., Clifton, N. J.

For more details circle NED-834 F7 on enclosed inquiry slip

PHOTOGRAPHIC FOIL for panel, nameplate production

Short run production of etched, anodized nameplates, panels, schematics and templates is made possible in just 7 minutes by Fotofoil kit. No darkroom or photographic equipment is required. Fotofoil, available in many colors and in standard thicknesses from 0.003-in., is a metal coated with light-sensitive ink which, after processing, becomes alkali, acid and waterproof. Kit contains photo lamp, print frame, three porcelain trays, chemicals, Triac adhesive in pressurized container and 10 sheets of Fotofoil. Offered by **Miller Dial & Name Plate Co.,** Dept. NED, 4400 N. Temple City Blvd., El Monte, Calif.

For more details circle NED-835 F7 on enclosed inquiry slip

NEW DINGS DYNAMIC PERMA-PLATE MAGNETS

ASSURE BETTER MAGNETIC SEPARATION IN CHUTES, SPOUTS, DUCTS

Positive removal of tramp iron from *rapidly moving* material is assured by Dings new *Dynamic* magnet design. Revolutionary step face, plus a wide gap between poles, attracts and holds more tramp iron from farther distances.

Perma-Plate Alnico V Magnets are simple to install in existing wood or metal chutes and ducts without expensive alterations—or Dings can furnish a complete double pass spout magnet assembly, as shown above.

Write for Catalog 1205-D for installation suggestions and design details of the 4 basic Perma-Plate types, each in 35 standard sizes from 4" through 72".

Backed by Dings—Magnetic Separator Leader for 50 Years

DINGS MAGNETIC SEPARATOR COMPANY
4758 West Electric Avenue
Milwaukee 46, Wisconsin

Dings

For more details circle NED-836 F7 on enclosed inquiry slip

SHELDON

It's Just Good Sense to Use Sheldon Lathes

Closer Tolerances. Sheldon Lathes work to closer tolerances . . . have accuracy guaranteed by the individual check sheet which accompanies each lathe and proves that that lathe has passed Sheldon's 19 accuracy tests. Continued accuracy is insured by hand scraping the headstock, carriage and tailstock to the ways; by using "Zero Precision" tapered roller spindle bearings, etc.

Extra Work Capacity. Sheldon 10", 11" and 13" Lathes have large 1" collet capacity, a 1⅜" hole through the spindle, 54 pitch gear boxes, large motors, cogged V-belts to spindle, etc. etc., and come in a choice of pedestal, cabinet or bench mountings.

Production Versatility. Sheldon Lathes are easily converted to ideal, high speed, production lathes with the addition of bed turrets, taper attachments and other production accessories.

Profitable. Sheldon Lathes are the right size for most toolroom and production jobs. Low in initial cost, they are inexpensive to operate and are profitable to use. It's just good business to be equipped with Sheldon Lathes.

Write for Catalog

SHELDON MACHINE CO., Inc.
4215 N. Knox Avenue, Chicago 41, Illinois

For more details circle NED-837 F7 on enclosed inquiry slip

Free FILTER Guide

New Filtration Bulletin describes 6 major automatic filtering processes for industrial application

2 to 1000 G.P.M. capacities are listed for coolants, cutting oils, paint spray booth water, wire drawing oils, quenching oils, edible oils and juices, optical blank grinding coolants, solvents and cleaners, aluminum foil rolling oils, air conditioning wash water, atomic and nuclear applications.

Delpark

Write today for your copy of Filtration for Industry

—First in Filtration Advancement

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

For more details circle NED-838 F7 on enclosed inquiry slip

A NEW DIMENSION IN DESIGN MATERIAL...

PRECISION BORE GLASS TUBING

Wilmad Offers Unheard-Of Accuracy and Low Cost

Design Engineers are constantly searching for new materials to reduce costs and improve preformance. Wilmad has helped make glass a "new" material by producing precision bore tubing of uniform accuracy with amazing tolerance limits. Wilmad Precision Bore Tubing can be used in making product components, instrument assemblies or sub-assemblies, wave guide tubes, manometers, rotameters, viscosimeters, barometers, McLeod gauges, dilatometers, burettes, dash pots, capacitors, diodes . . in virtually hundreds of precision applications in industry.

Learn how precision bore glass tubing can improve **your** product. Let our engineers help you determine how Wilmad Glass Tubing can solve your design problems.

Write for our **new** bulletin on Precision Bore Tubing.

WILMAD GLASS CO., INC.
Landisville, New Jersey

For more details circle NED-839 F7 on enclosed inquiry slip

Most widely-used hand pallet truck in America at NEW LOW PRICES!

MODEL L2P
Capacity 2,000 lbs.

RAYMOND® Lightweight

HYDRAULIC PALLET TRUCK

More RAYMOND Lightweight Hydraulic Hand Pallet Trucks are purchased today than any other and because of this high volume our production costs have lowered . . . and now we are passing the SAVINGS on to YOU!

Why are so many RAYMOND Trucks being purchased? Because this Hand Pallet Truck does so many jobs so well . . . ruggedly built to withstand years of use and abuse. Lightweight to lessen operator fatigue, easy to maneuver and pull. Patented booster rolls provide effortless pallet entry. Convenient foot pedals lift and lower your load. Completely hydraulic for dependable operation. Includes aluminum alloy construction, husky one-piece welded steel frame, safe dual-purpose brake, 270° turning radius.

The RAYMOND CORPORATION
4199 Madison St., Greene, N.Y.

☐ Send bulletin on Lightweight Hydraulic Pallet Truck.
☐ Please have a RAYMOND representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-840 F7 on enclosed inquiry slip

New Literature and Catalogs

Weed Killer

Brulin & Co.—Non-selective Weed Killer is an easy-to-use liquid which destroys vegetation on contact and absorption. It further sterilizes the soil and prevents germination of seeds. It is particularly suited for use in storage yards, along fences and right-of-ways and on parking lots of industrial plants to control weeds and all plant growth. Full details are given in 2-page data sheet.

For more details circle NED-841 F7 on enclosed inquiry slip

Designing Small Parts

Gries Reproducer Corp.—Possibilities for cost reduction through use of tiny precision die castings and thermoplastic moldings is purpose of the "GRC Product Designer's Kit." Charts compare other methods with company's techniques for automatic die casting and molding for design flexibility, production speed, tooling charges, scrap loss, tolerances and physical properties. Intercast parts with movable elements are described.

For more details circle NED-842 F7 on enclosed inquiry slip

Stainless Steel Fasteners

Star Stainless Screw Co.—Over 7000 items are listed in illustrated 24-page catalog 56-A. Data are given on continuous and butt hinges in blank, fixed pin and loose pin types; knurled and drilled parts; dowel pins; tapered and grooved parts; shafts; fasteners and special precision parts made of stainless steel, Monel, bronze, brass and aluminum. Stainless steel specifications, decimal equivalents, AN specifications and other engineering data are included.

For more details circle NED-843 F7 on enclosed inquiry slip

Environmental Cabinets

Webber Corp.—Capacity, temperature range and other information on a complete line of environmental cabinets for research and production, shrink fitting, stabilization of metals, hardening and rivet storage are given in 4-page bulletin. Capacities range from 1 to 45 cu ft for temperatures from −225 to 350° F.

For more details circle NED-844 F7 on enclosed inquiry slip

Small Metal Parts

Zierick Mfg. Corp.—48-page illustrated catalog 21 shows and gives specifications of stock metal parts which include lugs, clips, terminals and wire forms. Company is also equipped to produce special stamped and formed metal parts to any specifications.

For more details circle NED-845 F7 on enclosed inquiry slip

Speed Reducers

Michigan Tool Co., Cone-Drive Gears Div.—How design of double-enveloping worm gearing in Cone-Drive speed reducers provides higher load carrying capacity than standard reducers is explained in 24-page bulletin CD-218. Stock speed reducers range from fractional to 665 hp with reduction ratios from 5:1 to 70:1.

For more details circle NED-846 F7 on enclosed inquiry slip

Stainless & Alloy Bellows

Belfab Corp.—Design considerations and engineering data on welded bellows are given in illustrated 8-page catalog. Physical properties of common bellows materials such as stainless, Monel, Inconel X, Inconel and Ni Span C are tabulated. Comparison is made of welded versus hydraulically formed constructions.

For more details circle NED-847 F7 on enclosed inquiry slip

Industrial Casters & Wheels

Hamilton Caster & Mfg. Co.—56-page illustrated catalog No. 125 contains complete information on hundreds of rigid and swivel casters with steel, semi-steel, rubber and molded plastic wheels. Also detailed are various wheels with pneumatic, solid, semi-pneumatic and renewable tires. Flanged, V-grooved and cart wheels are described. Capacities range to 5000 lb per caster.

For more details circle NED-848 F7 on enclosed inquiry slip

Barrel Finishing Techniques

Minnesota Mining & Mfg. Co.—Twenty-one cost-saving case studies are included in 16-page illustrated guidebook entitled, "Materials-Equipment-Services for Honite Barrel Finishing." Typical workpieces are shown, finishing is discussed, and savings are listed.

For more details circle NED-849 F7 on enclosed inquiry slip

widely used on all types of aircraft

COMTORPLUG
expanding internal gage for simple or special bores from 1/8" to 10" diameter

UNIQUE ADVANTAGES

- Indicates actual size, a fixed — not passing — reading.
- Portable — no wire, hoses, stands or electronic gear.
- Positive 2-point gaging — automatic centering.
- Assured accuracy regardless of who operates it.
- Shallow holes, deep holes, inside splines, open-end holes gaged easily.
- Detects ovality, back or front taper, bell mouth, barrel shape.
- Reaches to bottom of blind holes.
- Will gage work in the machine.
- A shop tool for all-day every day use.

Precision in the palm of your hand . . . and accurate regardless of who uses it. Investigate the gage used by the thousands in jet engine, guided missile, farm machinery, automotive transmission, household appliance and other volume-precision plants.

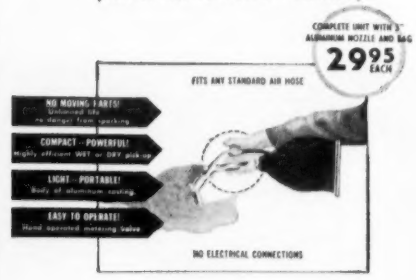
COMTOR COMPANY
73 Farwell St.
WALTHAM 54 MASS.

GET THE FACTS — REQUEST BULLETIN 50

For more details circle NED-850 F7 on enclosed inquiry slip

cut industrial cleaning costs!

Safe Industrial Cleaning with the M-M-A "Little Windy" Airvac
(AIR-OPERATED VACUUM CLEANER)



The "Little Windy" Airvac is safe! It is completely non-electrical. No danger from sparks — no moving parts.

Saves time and money! Cleans walls, shelves, bins, beams, lighting fixtures, electrical equipment, floor benches, etc.

Powerful suction developed by compressed air makes this unit amazingly efficient for either wet or dry pick-up.

Special fittings, brushes, etc. make the Little Windy Airvac adaptable to most any industrial application. Interchanging bag with hose makes it adaptable for removal or transference of liquids.

M-M-A, INC.
LANCASTER, PA.

Write for further data and technical information

For more details circle NED-851 F7 on enclosed inquiry slip

Specify NAYLOR PIPE and PIPE FITTINGS

TO SPEED THE JOB AND CUT COSTS

WATER LINES
AIR LINES
GAS LINES
COMPRESSED AIR LINES
VENTILATING LINES
PROCESS LINES
PNEUMATIC CONVEYORS
SLUDGE LINES
VACUUM LINES
DRAINAGE LINES

Here is a lightweight pipe with extra strength and safety to handle jobs normally requiring heavier-wall pipe. Its exclusive spiral-lock construction acts as a continuous expansion joint—absorbs shock loads, stresses and strains. Sizes range from 4" to 30" in diameter. All types of fittings, fabrications and connections including one-piece Naylor Wedge-lock couplings to speed installation and cut costs. Available in steel, alloys and stainless steel.

Write for Bulletins No. 507 and No. 525

NAYLOR

Naylor Pipe Company
1247 East 92nd Street
Chicago 19, Illinois

Eastern U. S. and Foreign Sales Office
60 East 42nd St.,
New York 17, N. Y.

For more details circle NED-852 F7 on enclosed inquiry slip

FOR MAXIMUM SAFETY

all over your plant use Safety GRIP-STRUT

Pat. Pending

the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

Important Safety Features

- ★ Fire proof
- ★ Slip proof
- ★ Maximum strength
- ★ Minimum weight
- ★ Easy to stand on
- ★ Cool in summer — warm in winter

Big Economy Features

- ★ For balconies—no extra light needed below—no extra heat.
- ★ No extra supports necessary—channels are integral part of the material
- ★ No secondary sprinkler heads needed
- ★ Self-cleaning
- ★ Cut and installed like lumber by your own maintenance force
- ★ Low in original cost

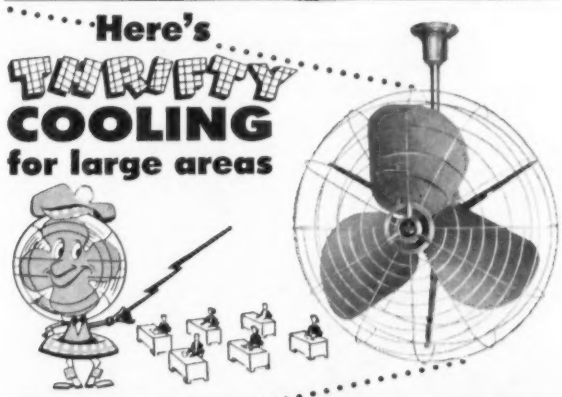
Distributors in all principal cities. Consult yellow pages in phone book under "GRATING."

GRIP-STRUT SEND FOR NEW CATALOG

GRIP-STRUT division
THE GLOBE COMPANY • *Manufacturers since 1914*
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

For more details circle NED-853 F7 on enclosed inquiry slip

Here's THRIFTY COOLING for large areas



EMERSON-ELECTRIC Air Circulators

✓Low Initial Cost ✓Low Operating Cost

Efficient . . . quiet . . . and economical. Prelubricated Emerson-Electric motors drive deep-pitched blades to move large volumes of air.

Mountings available for floor, counter, ceiling, wall.

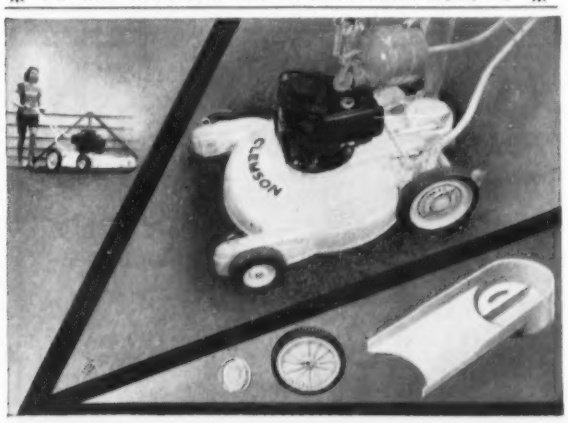
Write for Bulletin No. 2020, The Emerson Electric Mfg. Co., St. Louis 21, Mo.

Direct-Drive Exhaust Fans

Remove stale air, heat, steam and dust from your plant. Step up employee efficiency, cut down labor costs . . . install Emerson-Electric Direct-Drive Exhaust Fans.

EMERSON-ELECTRIC of St. Louis Since 1890

For more details circle NED-854 F7 on enclosed inquiry slip



Drive and housing of **KRALASTIC**

The severe thrust action developed by self-propelled rotary mowers previously required metal gears and wheels. New Kralastic®, with its tremendous impact strength, absorbs this punishing impact and thrust. Extremely strong, tough yet light in weight, Kralastic can't rust, rot or corrode. This unique rubber resin is making more and more products better. How can it improve yours? Why not contact us today and find out?

United States Rubber
Naugatuck Chemical Division
Naugatuck, Connecticut

BRANCHES: Akron • Boston • Gastonia, N.C. • Chicago • Los Angeles • Memphis • New York • Philadelphia • IN CANADA: Naugatuck Chemicals, Elmira, Ontario • Rubber Chemicals • Synthetic Rubber • Plastics • Agricultural Chemicals • Reclaimed Rubber • Latices • Cable Address: Rubexport, N.Y.

For more details circle NED-855 F7 on enclosed inquiry slip

New Processes & Materials

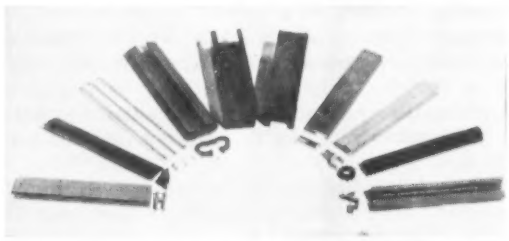
PAINT & VARNISH REMOVER
surface flushes clean with water

Paint, varnish, lacquer and oil can be removed from concrete, terrazzo and wood floors by Myco paint and varnish remover without scraping. It loosens the surface coating and holds it in suspension for easy "flush-off" with water. Surface is then clean and free of residue and dirt. Remover can also be used on walls, doors, partitions and woodwork, since it will not run off surface. It will remove stains from unsealed wood floors maintained with floor oils. Nonflammable and having low toxicity, it is available in 5-gal drums. Made by **Masury-Young Co.**, Dept. ND, 76 Roland St., Boston 29, Mass.

For more details circle NED-856 F7 on enclosed inquiry slip

PLASTIC EXTRUSIONS
custom-made of polyvinyl chloride

Sealing and gasketing, silencing, antivibration and protective coverings are applications for Vin-Con 349 and 350 rigid polyvinyl chloride compounds, now



available in custom extruded profiles. Both materials have good chemical and corrosion resistance, dielectric properties, dimensional stability and resistance to weathering and aging. They are extruded to close tolerances in a wide color range. Made by **Conneaut Rubber & Plastics Co.**, Dept. C.E., Shop & Commerce Sts., Conneaut, O.

For more details circle NED-857 F7 on enclosed inquiry slip

POLYSTYRENE MOLDING COMPOUND
developed for thin walled parts

Substantially greater strength across the lines of flow in thin-walled sections is provided by SMD-3700 Crystal 11 polystyrene molding compound. This free-flowing compound was developed for such parts as containers and lids, and for intricately designed, long flow parts which tax injection machine capacity. It also has high resistance to stress crazing. Material flows within wall cavities at 350 to 650° F molding temperatures and at injection pressures from 10,000 to 20,000 psi. It is 10 to 15 per cent less permeable to gases and water vapor than general-purpose polystyrenes and can be used in contact with food. Compound is available in cylindrical pellets and in fine granulations for dry coloring from **Bakelite Co.**, Dept. NE, 30 E. 42nd St., New York 17, N. Y.

For more details circle NED-858 F7 on enclosed inquiry slip

HEAVY DUTY FLOORING
withstands power trucking operation

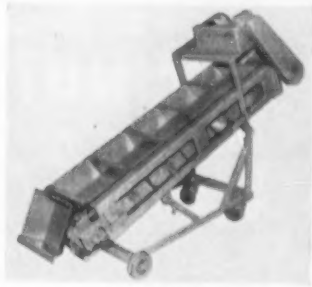
Applied in a ¼-in. layer over concrete floors, Sternite flooring material forms an extremely hard surface to eliminate wheel drag and withstand high speed hand

and power trucking. It will not depress under wheels of vehicles. It is composed of liquid emulsion, cement combinations and flint-hard aggregate, and is furnished in 250-lb units ready for mixing. It is dark brown in color, nonslip, nonporous, fire-retardant and wear-resistant. Easily feather-edged, it is simple to apply. Made by **Monroe Co.**, Dept. M-1, 10703 Quebec Ave., Cleveland 6, O.

For more details circle NED-859 F7 on enclosed inquiry slip

It was bound to be made sooner or later, and here it is . . . . . the

HINGE-LESS METAL TROUGHING CONVEYOR



Patent Pending

This is a terrific unit (max. height 14" from the floor) for conveying liquids, chips, scraps, stampings, hot and cold forgings, castings, sand, grain, chemicals, powder and many other items. Food and corrosive materials can be conveyed by switching to stainless steel troughing buckets. Dimensions of the conveyor can be adapted to suit application. Portable and stationary; load rolls on rolls.

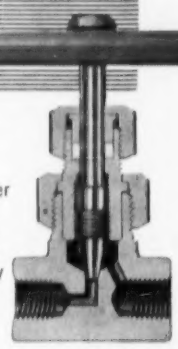
NO HINGES; NO MAINTENANCE!

P.S. The real advantage of this equipment is the elimination of troublesome hinges, and frequent maintenance. This equipment means real savings in maintenance costs.

R. T. SHEEHAN CO.
CONVEYORS
P.O. BOX 345, PLYMOUTH, MICH.
PHONE: PLymouth: 2228

For more details circle NED-860 F7 on enclosed inquiry slip

AMERICAN® needle valves



Teflon-packed, forged steel American® Needle Valves stand up in the toughest meter manifold jobs and other corrosive field services without gland leaks. Stainless or carbon steel precision machined valve bodies are specially suited for welding. Stainless steel centerless-ground valve stems are designed so that the valves can be repacked under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. For pressure to 10,000 psi, upon request, valves are hydrostatically tested and individually inspected. Valves are furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns – screwed or union bonnets.

AMERICAN METER COMPANY INCORPORATED ESTABLISHED 1836

Executive Offices: Philadelphia 16, Penna. Sales Offices in Principal Cities

For more details circle NED-861 F7 on enclosed inquiry slip

MAKE YOUR OWN SOUND MOVIES . . . THIS EASY, INEXPENSIVE WAY

Here, in one compact, portable unit is all you need to make your own sound movies.

This new Kodascope Pageant Sound Projector, Magnetic-Optical, is both a superb sound projector *and recorder*.

Take any kind of 16mm film, sound or silent, and have a magnetic striping added for about 2½¢ per foot. Then run it through your Magnetic-Optical and record *your* own sound.

Mix voice with music, add from other sound sources, record on the spot, blend automatically. Erase, alter, re-use the magnetic stripe at will. Change your message to fit special groups, as often as you wish.

And *project* every kind of 16mm film (sound or silent) with the same ease, brilliance, fine tone, and freedom from maintenance that you get from *every* Pageant.

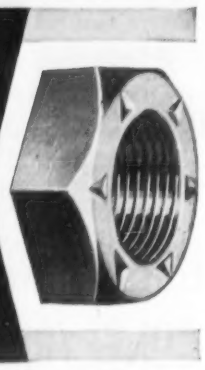
Interested? Write for full details.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

For more details circle NED-862 F7 on enclosed inquiry slip

Use this THIN GRIPCO JAM NUT



FOR • Valve Handles • Casters • Shears • Clippers • Sickle Bars

or wherever you need a positive lock on short bolts where the strength of a full nut is not needed.

GRIPCO JAM NUTS come in the New Unified Finished and Heavy Series (Hexagon), in standard full and jam dimensions, in steel, brass and aluminum.

Gripco Products Include:

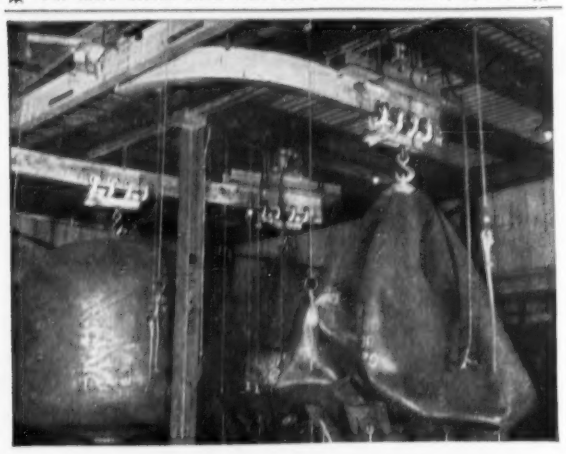
Gripco Lock Nuts • New Gripco "Clinch Nuts" Gripco Hi-Nuts • Gripco Pilot-Projection and Countersunk Weld Nuts all with or without the famous Gripco positive locking feature. Also Standard Semi-Finish Nuts.

Write for samples and full particulars.

GRIP NUT COMPANY
106 Maple Ave. • South Whitley, Ind.

117

For more details circle NED-863 F7 on enclosed inquiry slip



Teamed Engineering for Efficient Sealdbulk Handling

U. S. Rubber Company and American MonoRail Engineers teamed up to develop this system.

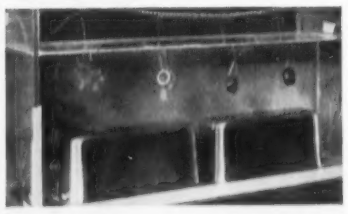
Sealdbin containers, made by U. S. Rubber Co., each hold 11,000 pounds of carbon black. American MonoRail moves the Sealdbins from flat cars to special stations for discharge thereby minimizing manual labor, time, and waste.

Send for Bulletin C-1.

AMERICAN MONORAIL COMPANY
13116 ATHENS AVENUE • CLEVELAND 7, OHIO

For more details circle NED-864 F7 on enclosed inquiry slip

Clean Metal Parts



✔BETTER
✔FASTER
✔LESS COST

Typical application of ultrasonic cleaning using the new D-52 GU Sonicell. Operation completely removed shop dirt, grease, chips, and lapping compound from the insides and outsides of the roller bearings in just 28 seconds.

If you have a cleaning problem on metal parts from bearings to crankshafts General Ultrasonics can help you.

New 2KW Generator

For large ultrasonic applications, we are furnishing our new (non-electronic) 2KW motor-alternators. For tanks up to 100 gallons, the 2KW with simple push-button controls will power 6 of the D-52 Sonicells shown above.

For Details Write Dept. B-1

GU THE GENERAL ULTRASONICS COMPANY
67 Mulberry Street • Hartford 3, Conn.

THE ULTIMATE IN ULTRASONICS

For more details circle NED-865 F7 on enclosed inquiry slip

New Literature & Catalogs

Instrument Transformer Guide

General Electric Co., Instrument Dept.—"Instrument Transformer 1957 Buying Guide" is 88-page manual on indoor and outdoor type current and potential transformers, metering outfits, portable transformers and Thyrite protectors. Engineering specifications as well as list prices are given on hundreds of units.

For more details circle NED-866 F7 on enclosed inquiry slip

High Temperature Heating Elements

Carborundum Co., Globar Div.—12-page booklet A-1472 is entitled "Hot Tips from Globar on Silicon Carbide Heating Elements." Suggestions are given for handling, unpacking, storing, installation and replacement of these radiant heating elements.

For more details circle NED-867 F7 on enclosed inquiry slip

Packaged Liquid Chillers

Acme Industries, Inc.—Nine new Flow-Therm packaged liquid chillers in 20 to 125-ton capacities are described in illustrated catalog 533. By using factory-installed changeover valves, these units become heat pumps. Engineering data given include capacities, pressure drop, condenser water requirements and selection table.

For more details circle NED-868 F7 on enclosed inquiry slip

Automatic Tackers & Staplers

Fastener Corp.—The complete line of Duo-Fast manual and air-operated stapling and tacking equipment is subject of 28-page catalog. Section deals with applications of equipment in 16 industries. Guidance is offered in selecting the proper staple for various jobs.

For more details circle NED-869 F7 on enclosed inquiry slip

Aircraft Thermocouples

Thermo Electric Co.—Illustrations, specifications and ordering charts for line of aircraft thermocouples and assemblies are contained in expanded 10-page bulletin A. Data on three reciprocating engine type units, Mil-Spec thermocouples, firewall quick disconnect, resistor and extension lead assemblies are included.

For more details circle NED-870 F7 on enclosed inquiry slip

Grating & Treads

Blaw-Knox Co., Grating Dept.—Descriptions of electroforged, riveted, rectangular, diagonal, U-type and T-interlocked grating and treads are found in illustrated bulletin 2527 of 24 pages. Tables of safe loads and information necessary for specifying are included.

For more details circle NED-871 F7 on enclosed inquiry slip

Lathe Contour Attachments

Warner & Swasey Co.—Design features and specifications of two contour attachments for turret lathes are presented in 8-page illustrated bulletin 5702. One is a cross-slide mounted turning and facing unit, while the other is a hex turret mounted boring unit. Both utilize a microsensitive control system.

For more details circle NED-872 F7 on enclosed inquiry slip

Spectrochemical Analysis

Jarrell-Ash Co.—Basic fundamentals of spectrochemical analysis are described in 28-page brochure CH401. Booklet outlines the methods, instruments and accessories encountered in all phases of this work and includes typical analytical problems. It is the first of a series of spectrochemical reference handbooks.

For more details circle NED-873 F7 on enclosed inquiry slip

Variable Speed Drives

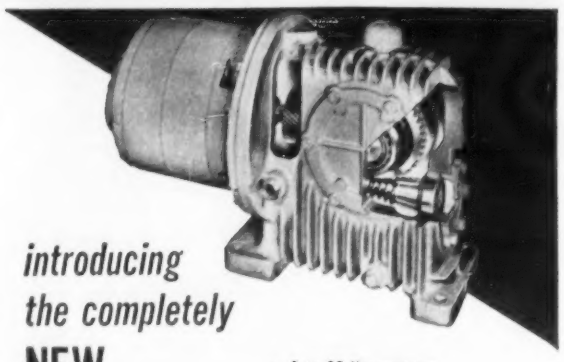
Magnetic Amplifiers Inc. — General specifications and engineering data on Magne-Speed Junior variable speed drives in fractional horsepower sizes of 1/8 to 1/100 are presented in 4-page bulletin S 790. These instant-response drives operate in ambient range of 32 to 110° F. Speed range is about 40:1.

For more details circle NED-874 F7 on enclosed inquiry slip

Corrosion-Resistant Fittings

Horace T. Potts Co.—Speedline corrosion-resistant fittings for stainless steel piping installations include elbows, tees, return bends, reducing tees, eccentric and concentric reducers, caps, crosses and aligning connectors. These fittings, including Speedline insert flanges, tube expanders and unions are described and specified in 22-page brochure.

For more details circle NED-875 F7 on enclosed inquiry slip



introducing the completely
NEW *Cone-Drive* GEARMOTOR

- 1 to 25 Horsepower
- Extended shaft
- Shaft mounted
- 27 Output speeds
- Standard NEMA D-flange motors
- Compact double-enveloping worm gear design for high efficiency
- High output torque ratings
- Ask for catalog 57. It's free!

CONE-DRIVE GEARS
Division, Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNICHOLS ROAD • DETROIT 12, MICHIGAN

For more details circle NED-876 F7 on enclosed inquiry slip

Enlarge knockouts to 5 5/8" in seconds

Make accurate holes faster, easier... save with GREENLEE Knockout Punch Driver

A few easy strokes on the handle of the GREENLEE 7646A Hydraulic Knockout Punch Driver, and the punch cuts smoothly through a 10-gage metal box . . . time, 10 seconds! Makes knockout punching go fast and easy, even in cramped quarters. Cuts are accurate . . . slugs drop loose in die — just turn it over and they fall out. Small, handy driver develops *eleven tons* of ram force! Write GREENLEE Tool Co., 1946 Herbert Ave., Rockford, Illinois for new free illustrated bulletin.

GREENLEE Hydraulic Knockout Punch Drivers, Knockout Punches, Complete Sets — any combination your jobs require.

TOOLS FOR CRAFTSMEN GREENLEE

For more details circle NED-877 F7 on enclosed inquiry slip

BUILD YOUR OWN Automatic Drilling or Tapping Machine

With Govro-Nelson Automatic Drilling and Tapping Units, together with the bases and electrical controls which we can supply, you can build yourself an automatic drilling or tapping machine at substantially lower cost than a special machine. Any number of units may be employed.

The Drilling Units are made in several sizes with spindle speeds from 1100 to 3450 RPM. Drill Units have full Hydraulic Control with external adjustment for the rapid approach, the rate of feed and the length of stroke. Suitable for drills up to 3/8", depending on material.

The Tapping Units are available in two sizes with 550 and 1725 RPM spindle speed. Features include no clutch and no lead screw and automatic adjustment for various leads. Suitable for tapping 0-80 to 3/8-16, depending on material.

Write for Literature

GOVRO-NELSON CO.
1933 Antoinette
DETROIT 8, MICH.

Automatic DRILLING UNIT

For more details circle NED-878 F7 on enclosed inquiry slip

Widest Choice of
SHEET RUBBER
at the RIGHT PRICE

- All types
- Right prices
- Good delivery
- E-Z-TO-READ price list.

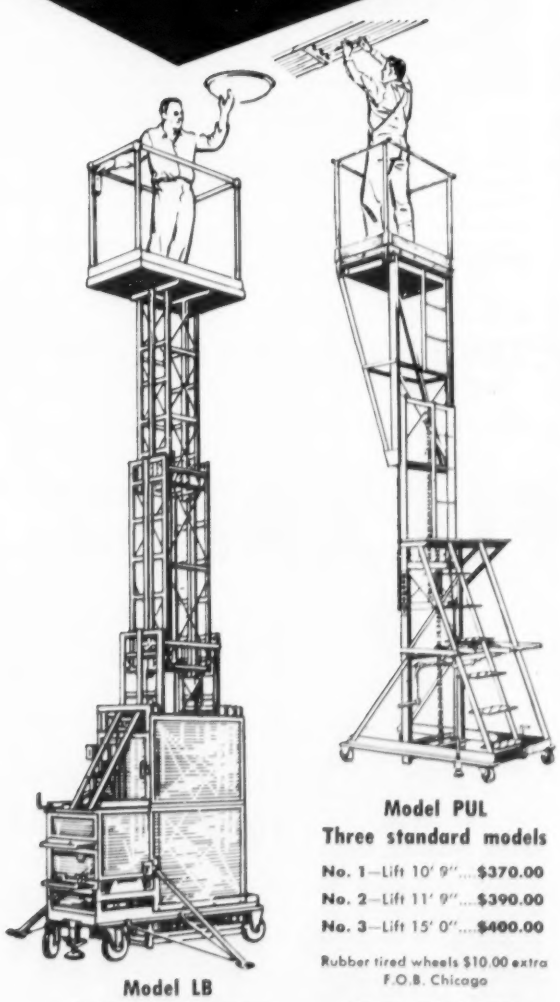
We have been a recognized and reliable source of supply on sheet rubber for many, many years. We can QUICKLY furnish Pure Sheet as well as Cylinder Spring, Press Die Pads, Switchboard Matting and electrically conductive rubber. We are a medium size concern and consequently MORE FLEXIBLE in making or shipping WHAT you want, WHEN you want it and at the RIGHT price.

WRITE FOR THIS RUBBER PRICE LIST. It's so simple to follow, so profitable to read. No tricks! No special discounts! Just right prices!

BUFFALO WEAVING & BELTING COMPANY
210 CHANDLER ST.
BUFFALO 7, N. Y.

For more details circle NED-879 F7 on enclosed inquiry slip

90% of overhead servicing jobs can be done faster and with perfect safety with these ECONOMY Hi-Reach Telescopers!



Model LB
Hi-Reach Telescopers
Four heights 20 ft. to 35 ft.
Standard Models from $1510.00 up.

Model PUL
Three standard models
No. 1—Lift 10' 9"....$370.00
No. 2—Lift 11' 9"....$390.00
No. 3—Lift 15' 0"....$400.00
Rubber tired wheels $10.00 extra
F.O.B. Chicago

Custom built Hi-Reach Telescopers up to 100 ft.
Write for complete catalogue

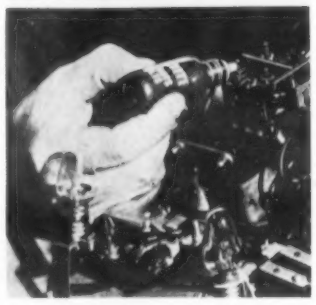
Headquarters for standard and special built overhead service lifters and material handling equipment since 1901

ECONOMY ENGINEERING
4519 West Lake St., Chicago 24, Illinois

For more details circle NED-880 F7 on enclosed inquiry slip

New Processes & Materials

THREADED FASTENER SEALANT holds to desired locking torque



Threaded fasteners of all types can be permanently secured to any desired locking torque and given a fluid-tight seal through use of Loctite sealant. Sealant wicks into the engaging threads to harden into a tough heat and oil resistant plastic with gripping action over the entire surface of the engaged threads. Four strengths, with Grade A ten times the strength of Grade H, are offered. Gripping torque is controlled by varying the engaged length or grade of sealant. Material also locks dowel pins, solders and seals tubing, and seals joints against dirt and corrosion. Made by **American Sealants Co.**, Dept. NED, 103 Woodbine St., Hartford 6, Conn.

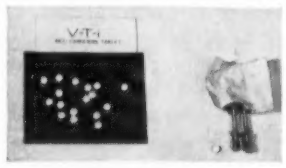
For more details circle NED-881 F7 on enclosed inquiry slip

BURNISHING COMPOUND produces smooth, bright finish

Used with all types of barrel finishing media or with self-tumbling work, Oakite FM-103 burnishing compound produces a smooth bright finish, prevents tarnishing during burnishing and rinses freely. It can be used on aluminum, copper, brass, nickel-silver, gold and steel. With a pH of 8.5 to 8.6, it contains no ingredients which encourage bacteria growth or cause dermatitis. Solution concentration of 1 to 2 oz per gallon of water develops a good luster. Made by **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

For more details circle NED-882 F7 on enclosed inquiry slip

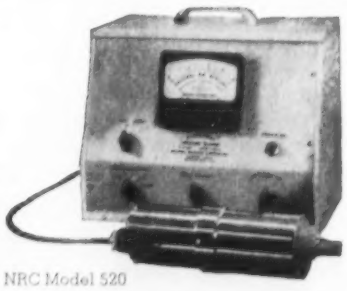
RUST-INHIBITING TABLETS protect all types of packaged items



Appearing to be large-size aspirin, VTi tablets eliminate "headaches" caused by rust and corrosion when packaged in a closed container around any ferrous metal object. They are based on Shell Oil Co. VPI vapor phase inhibitor, and create a corrosion and oxidation resistant atmosphere. Gas permeates every hole, crack, void and recess, making protection of irregularly shaped parts practical. One tablet is said to protect 30 cu in. of enclosed space for up to 3 years, depending on type of container, seal and storage temperature. Made by **Al-Con Chemical Co.**, Dept. K, Box 8168, New Orleans 22, La.

For more details circle NED-883 F7 on enclosed inquiry slip

Rugged New Vacuum Gauge *With Six Ranges Covering Pressures from 1000 mm. to 0.1 micron*



NRC Model 520

The new NRC Model 520 Alphatron (R) Ionization Vacuum Gauge is equally ideal for the laboratory and production floor. It is both precisely accurate and nearly immune to abuse. Ruggedized new circuitry eliminates troublesome components, minimizes contamination effects, and provides highly stable and linear amplification. A direct reading, total pressure gauge with almost instantaneous response, the Model 520 is accurate to ± 2% and linear over the entire range. Drift is less than 0.5% despite wide line voltage variations. It is especially useful with a recorder or controller and makes an efficient leak detector. Write today for Bulletin G-20

NRC Equipment Corporation
Subsidiary of National Research Corporation
Dept. 29F Charlemont Street Newton 61, Mass.

For more details circle NED-884 F7 on enclosed inquiry slip

Let us take over your inventory problem!

Immediate Delivery!

ANY BORE SIZE • ANY MOUNT • ANY STROKE

CARTER
CYLINDERS

Here's real help for engineers and designers who need fast action on cylinders. Carter's exclusive key type locking design and simplicity of parts *makes it possible to ship cylinder orders in 24 hours or less!* Now you can have rugged, dependable, compact quality cylinders when you want them. Your order is in process *minutes after we get it.* Get in touch with us *today* for cylinders you need tomorrow.

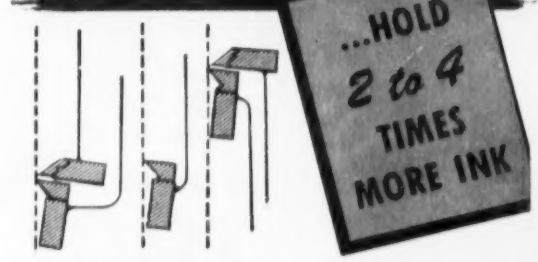
Catalog File!
Air Cylinders; 750 Lb. Hydraulic; 1500 Lb. Hydraulic; Clamp Cylinders; Air Valves; Built-in Valve Type Cylinders. Complete with parts data, specifications and prices. Send today!

24 HOUR PHONE SERVICE—If you need fast service call your Carter representative or the plant. LANSING, ILLINOIS, GRanite 4-3305 or CHICAGO, BAyport 1-7186. Teletype LNSG, ILL 1119X.

CARTER CONTROLS INCORPORATED
2876 Bernice Road, Lansing, Illinois (Chicago Suburb)
AIR CYLINDERS • HYDRAULIC CYLINDERS
AIR VALVES • ROTARY ACTUATORS • SPECIAL CONTROLS

For more details circle NED-885 F7 on enclosed inquiry slip

BETA CHART PENS



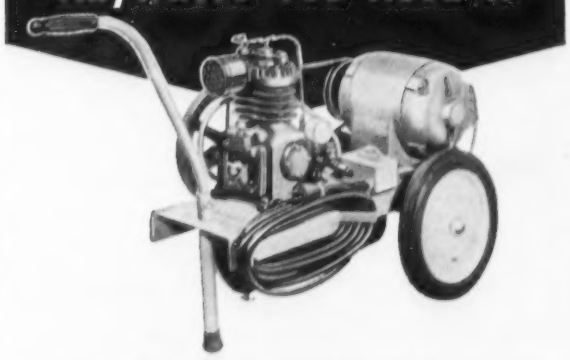
Beta Fountain Pens hold two to four times the ink of ordinary chart inking pens. Regardless of the line thickness Beta Pens produce a smooth unbroken and uniform line. Pens shown are approximately actual size and can be arranged to reduce time interval between static and differential lines to only a few minutes. Beta Pens are especially suitable for seven day records. Price $1.20 (lower prices in quantities).

Send for bulletin No. 110-R1

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.
Available for Early Delivery

For more details circle NED-886 F7 on enclosed inquiry slip

Have Compressed Air Anywhere You Need It

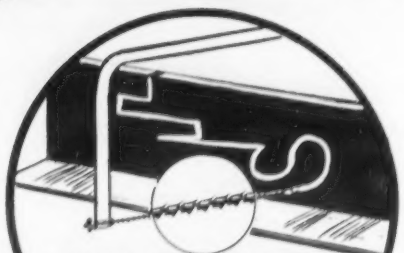


New DeVilbiss Portable Air Compressors bring air to the job for spray painting, air tools, emergency service, or on-the-spot air supply. Available in ½ or 1 hp class, gas and electric models. Delivered pressure 60 or 100 pounds. Can even be carried in the trunk of your car. Write today for full details.

DEVILBISS
THE DEVILBISS COMPANY
Toledo, Ohio
Santa Clara, Calif. • Barrie, Ontario • London, England

For more details circle NED-887 F7 on enclosed inquiry slip

The Amazing Tyler SPYRAL BLADE



SAWS ANY MATERIAL IN ANY DIRECTION... up or down... right or left...

even in circles!

Fits any standard hacksaw or coping saw frame. Leaves clean, smooth edge without chipping or tearing. Adapter sets available for Delta 14" bandsaws and all Do-All machines.

Hacksaw blades — 29c each in lots of 10 to 49 blades. Prices on larger quantities and other items on request.

See your industrial supply jobber . . . or write to:

TYLER MANUFACTURING CO. 1005 W. Arbor Vitae Ave. Inglewood, Calif.

For more details circle NED-888 F7 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition.

WATERLOO METAL BOXES AND CHESTS

Write for FREE book, including complete information.

Waterloo

VALVE SPRING COMPRESSOR CO. WATERLOO, IOWA

For more details circle NED-889 F7 on enclosed inquiry slip

3A threads: what they are; how to gage them—new SPS booklet tells all

Threads made to Class 3A fit are the most precise in general use in industry. But you do not always get the 3A precision you specify. Because of many different gaging techniques that yield varying results, screws with threads well outside the Class 3A tolerance limits often pass inspection.

SPS has prepared a new booklet on this subject. It explains clearly what Class 3A threads are and the pros and cons involved in the widely varying gaging techniques in use today. It reviews the gaging of high and low limits of 3A threads, sampling techniques, and even the methods of gaging gages. Write for your copy today.

All standard UNBRAKO socket screw products fall within specified tolerance limits *no matter what method is used to gage them.* Leading industrial distributors carry complete stocks. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.

UNBRAKO SOCKET SCREW DIVISION SPS

JENKINTOWN PENNSYLVANIA

For more details circle NED-890 F7 on enclosed inquiry slip

New Literature & Catalogs

Control Meter-Relays

Assembly Products, Inc. — Contact meter-relays that both indicate and control are subject of 40-page illustrated catalog 4-C. Circuits for obtaining different types of control actions are shown. Also described are panel meters and auxiliary control components.

For more details circle NED-891 F7 on enclosed inquiry slip

Abrasive Shot & Grit

Abrasive Shot & Grit Co.—The SAE specifications of abrasive shot and grit are presented in illustrated catalog. Also shown are methods and proper abrasive mixtures for shot peening and impact cleaning.

For more details circle NED-892 F7 on enclosed inquiry slip

Clamps & Fixture Components

West Point Mfg. Co.—"Clamps and Fixture Details" is title of 16-page catalog which contains dimensional drawings, tables and prices of complete line of fixture clamps and components for production machining and assembly.

For more details circle NED-893 F7 on enclosed inquiry slip

Collets & Feeders

Sutton Tool Co.—Standard collets and feeders, quick-change master collet and style L master feeders, "full floating" master collets, Burns style taper lock master feeders and the super feeder are detailed in illustrated 24-page catalog 22. Cross-sectional views and prices are included.

For more details circle NED-894 F7 on enclosed inquiry slip

Titanium Pipe & Tubing

Babcock & Wilcox Co., Tubular Products Div.—Engineering data on seamless titanium metal pipe and tubing are found in technical data bulletin TDC-185. Its 12 pages contain details of size range and tolerances, plus a description of mechanical, physical and working properties.

For more details circle NED-895 F7 on enclosed inquiry slip

Air & Oil Cylinders

Logansport Machine Co.—Logansquare cylinders for air or oil service which conform to JIC standards are equipped with hardened and chrome plated piston rods. Subject of illustrated 16-page catalog 100, they are built in 14 different mounting styles with 1½ to 8-in. bores.

For more details circle NED-896 F7 on enclosed inquiry slip

Worm Gear Drives & Their Application

Cleveland Worm & Gear Co.—Facts on Cleveland worm gear drives and their application to mechanical power transmission are presented in detail in 16-page bulletin 145. Standard line of speed reducers, worm gear sets and special units are described and illustrated.

For more details circle NED-897 F7 on enclosed inquiry slip

Heat Treating Equipment

C. I. Hayes, Inc.—Design advantages and available sizes of line of hardening, preheat, high speed steel, tempering and vertical furnaces are covered in illustrated 12-page bulletin 461. "Certain Curtain" atmosphere and its features, and the endothermic atmosphere generators are also covered.

For more details circle NED-898 F7 on enclosed inquiry slip

Optical Tooling Equipment

Keuffel & Esser Co.—20-page illustrated optical tooling catalog lists such standard items as jig transits, alignment telescopes, Paragon tilting levels and many accessories, including instrument stands, fixtures, collimators, scales, targets and optical attachments, including the optical square.

For more details circle NED-899 F7 on enclosed inquiry slip

Radioactivity Measuring Instruments

Nuclear-Chicago Corp.—Over 30 new radioactivity measuring instruments are described and illustrated in 64-page catalog Q. Sections are devoted to nuclear scaling units, ratemeters, gamma ray spectrometer systems, Geiger and scintillation detectors and various other units.

For more details circle NED-900 F7 on enclosed inquiry slip

Drying & Calcining Research Equipment

C. O. Bartlett & Snow Co.—Usable for research, laboratory, pilot plant and training purposes, equipment for drying and calcining described in 8-page bulletin 117 includes gas, steam and electrically heated units for purchase or rental.

For more details circle NED-901 F7 on enclosed inquiry slip

Why pay more?

Compare the quality of these low-cost DUO-FAST Foot-Power Staplers

You'll make up cartons far faster with a DUO-FAST Foot-Power Stapler. Post model . . . handy, portable.

You can pay up to $50 more and still not match the quality of these DUO-FAST Foot-Power Staplers. The reason: tubular steel construction. Makes 'em sturdy, yet light—just 38 lbs. Real time-savers . . . ideal for shipping rooms, large and small.

Choose from 3 models:

POST MODEL (as shown)—for stapling bottoms of cartons.

STRAIGHT ARM MODEL—for stapling telescopic cartons, corrugated inserts and fillers.

TABLE MODEL—for various automatic tacking jobs.

Free service: Priced at about $85, these foot-power tools compound your savings with DUO-FAST's famous Free Service Guarantee.

Send today for free Bulletin FP-30 on DUO-FAST Foot-power tools.

FASTENER CORPORATION, 858-60 Fletcher St., Chicago 14.

DUO-FAST

Staplers · Tackers · Staples

For more details circle NED-902 F7 on enclosed inquiry slip

RECIPROCATING SOLENOIDS

R2D-328 SOLENOID OPERATOR

Reciprocating solenoids have the trade name of "RD Solenoid Operators."

DEFINITION

An RD solenoid operator is a reciprocating solenoid unit made up of two solenoids mounted in tandem to actuate a common plunger oscillating between them.

CLASSIFICATION AND DENOMINATION

Class I. Plain RD operators for operation in open air.
Class II. Oil immersed, RDZ operators.
Class III. Explosion proof RDX operators.
Type 1. Two point operators R2D, R2DZ, R2DX.
Type 2. Three point operators R3D, R3DZ, R3DX.
Form A, side mounted, Form B, end mounted.

Operators available: RD-100, RD-300, RDX-300, RD-400, RD-700 and RD-800.

Ask for bulletins on operators, solenoids, solenoid brakes, Reciprocators and Semotors. See our catalogs in Sweet's Catalog Service.

TROMBETTA SOLENOID CORP.

329 N. MILWAUKEE ST.•MILWAUKEE 2, WIS.

For more details circle NED-903 F7 on enclosed inquiry slip

FLEXAUST®

HOSE is the answer to DUST and FUME control

• FLEXAUST hose, made of neoprene coated cotton or nylon fabrics spiral wired reinforced, is strong and durable.
• Easy to cut, install, connect, reuse and relocate.
• Proven for 20 years in *all* kinds of dust and fume control. Especially good for elbows, offset bends and leads from permanent duct work to moving hoods, etc.

Sizes 1¼" thru 36" I.D.

WRITE FOR FREE CATALOG TODAY

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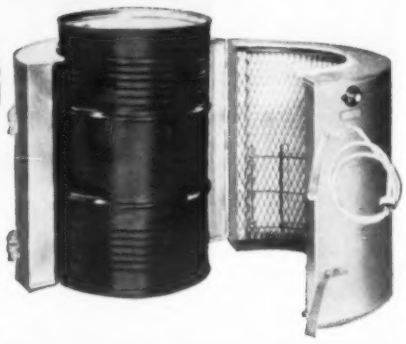
THE FLEXAUST COMPANY

Dept. NED-6 • 100 Park Avenue • New York 17, N. Y.

For more details circle NED-904 F7 on enclosed inquiry slip

PORTABLE ELECTRIC OVEN

WARMS ANYTHING IN METAL DRUMS UP TO 450° F



PALMER AUTOMATIC DRUM WARMER

Makes removal from drums of any material that handles better when warm SAFE, EASY and CONVENIENT—by dipping, pouring or pumping.

Four models—for 55 and 30 gallon and 16 and 14 gallon (120 and 100# grease) drums.

Well-insulated hinged halves fit around drum at point of use eliminating handling of hot drums. For 115, 208, 230 or 460 volt, single or three phase.

Write Dept. 48 today for literature, prices and specifications.

HAROLD L. Palmer COMPANY

2980 W. Davison Ave., Detroit 38, Mich. TUlsa 3-1100

For more details circle NED-905 F7 on enclosed inquiry slip

LOW COST INCINERATOR

BURNS TRASH SAFELY OUTDOORS

Only $110.00 COMPLETE

NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

Write for **FREE** *Folder*

ALSTO COMPANY

Dept. NE-6 4007 Detroit Ave. Cleveland 13, Ohio

For more details circle NED-906 F7 on enclosed inquiry slip

UP PROFITS? HIGH

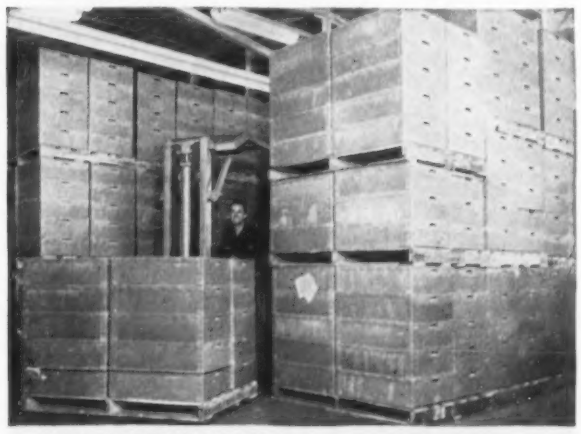
WANT TO LOWER COSTS?

CONVOY'S CHEMBOARD* SELF-STACKING TOTE BOXES *MAY BE YOUR ANSWER*

Convoy Boxes are LOW COST, STRONG and LIGHT WEIGHT . . . are made in a wide range of stock sizes and shapes. They weigh and cost less than 40% of steel.

*Chem-Board is Convoy's chemically impregnated corrugated board . . . flint-hard, rock-strong.

Here's an example of Convoy Self-Stacking Boxes speeding production, conserving space, saving money.



GET IN TOUCH WITH

CONVOY, INC.

CANTON 6, OHIO

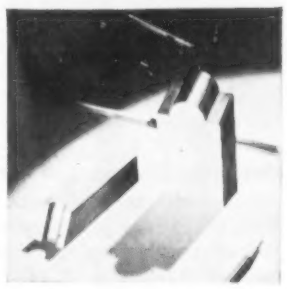
P. O. Station B, Box 216-N

STANDARD AND CUSTOM-MADE NESTING, STACKING, and VERTICAL-SIDED CHEM-BOARD TOTE BOXES

For more details circle NED-907 F7 on enclosed inquiry slip

New Processes & Materials

TOOL STEEL
contains sulphur and graphite



Improved machinability and surface finish of Oilgraph-EZ tool steel is obtained by including 0.1-per cent sulphur and 0.2 to 0.4-per cent graphite in the steel. Sulphur and graphite particles act as a continual and constant lubricant during machining. Limited graphite particles are dispersed evenly through the steel for resistance to wear and galling. It is available in bars and bar stock for use in tools, dies, cutters, spindles and other parts. Made by **Allegheny Ludlum Steel Corp.**, Dept. NED, 2020 Oliver Bldg., Pittsburgh 22, Pa.

For more details circle NED-908 F7 on enclosed inquiry slip

HIGH-TEMPERATURE INSULATION
for electrical use withstands 500° C

Suitable for continuous operating temperature in excess of 500° C, Supra-Mica 560 moldable ceramoplastic insulating material can be precision molded to close tolerances and is dimensionally stable after molding. Thermal coefficient of expansion closely matches that of steel, and functional or reinforcing inserts can be molded in without risk of loosening and resultant corona. It has excellent electrical insulating properties, specific gravity of 2.8 and does not absorb water. Illustration shows its ability to withstand temperatures that soften other materials. Made by **Mycalex Corp. of America**, Dept. 57-G, 125 Clifton Blvd., Clifton, N. J.

For more details circle NED-909 F7 on enclosed inquiry slip

HAND LOTION & CREAM
protect against moisture, irritants

Very mild and pleasingly fragrant, Sanchia silicone skin protective cream and lotion provide a strong, long lasting, invisible barrier against moisture, irritating soaps and detergents, natural irritants, chemicals and paints. Applied to hands before starting a dirty job, the preparations facilitate cleaning of hands when job is done. They remain non-toxic, inert and nonsensitizing, and help to prevent dermatitis and other skin irritations. Cream is offered in ¼, 1, 3 and 16-oz sizes, while the lotion is packaged in ½-oz glass jar and 4-oz plastic dispensing bottle. Made by **Otis Clapp & Son Inc.**, Dept. N, 439 Boylston St., Boston 16, Mass.

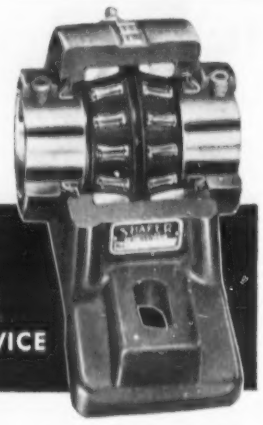
For more details circle NED-910 F7 on enclosed inquiry slip

GLASS FIBER FLOOR COATING
impervious to acids, chemicals

A resinous compound, fibrated with glass, Poly - Rock floor surfacing material is trowel-applied to about 1/16-in. thickness over new or existing concrete, wood or brick floors. Material is highly resistant to oils, solvents, water, acids, foods and cleaning solutions. It cures at normal temperatures within 12 to 24 hours, after which it can be subjected to the most punishing traffic abuse. Highly abrasion-resistant with nonslip qualities, Poly-Rock comes in unit form which includes basic resin, setting liquid and aggregates. These are proportioned and easy to mix. Photo shows spreading of second coat. Cracks and wall-floor joints are coved with glass cloth embedded into Poly-Rock. Developed by **Plant Maintenance, Inc.**, 625 Green Rd., Cleveland 21, O.

For more details circle NED-911 F7 on enclosed inquiry slip

SHAFER® BEARINGS



CAPACITY FOR HEAVY-DUTY SHOCK LOAD SERVICE

Assure performance of your design with the high bearing capacity of Shafer Self-Aligning Roller Bearings. Shafer design combines the low rolling friction of a ball and high load carrying capacity of a roller—and maintains that capacity under shock loads, continuous heavy-duty loads—even under misalignment.

You can now get off-the-shelf delivery of standard pillow blocks, flange units, flange cartridge units, take-up and frame units. Call your CHAIN Belt District Office, Representative or Distributor today—or write for catalog 55A. CHAIN Belt Co., Shafer Bearing Division, 4686 W. Greenfield Ave., Milwaukee 1, Wis.

CHAIN BELT COMPANY

Milwaukee 1, Wisconsin

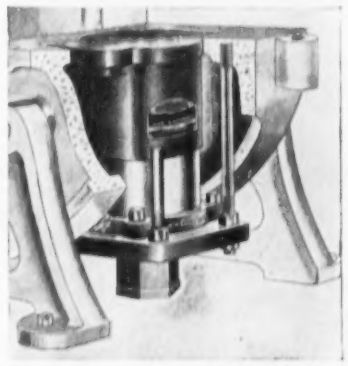
For more details circle NED-912 F7 on enclosed inquiry slip

DIE CUSHIONS

FOR ALL DEEP DRAWING OPERATIONS

Furnished complete ready to install. Operates perfectly on all shop air lines.

ACCURATE ADJUSTABLE WORKING PRESSURES ASSURED
QUICK SETUP SAVES TIME
PRESS BED OR BOLSTER PLATE MOUNTING
MODELS AVAILABLE FROM STOCK, SIZES 3" THRU 16"
DIE CUSHIONS AVAILABLE FOR ANY POWER PRESS
ENGINEERING SERVICE AT YOUR DISPOSAL
ALL DIE CUSHIONS INSTALLED ON TRIAL BASIS



Full Universal Pneumatic Die Cushion

DAYTON ROGERS *Manufacturing Company*

MINNEAPOLIS 7E, MINNESOTA

For more details circle NED-913 F7 on enclosed inquiry slip

AGASTAT

Compact . . . Dust-Proof

TIME DELAY RELAYS

solenoid actuated—pneumatically timed

Introduces time delays into a-c or d-c circuits. Easily adjusted to provide delays ranging from 0.1 second to five or more minutes.

The AGASTAT is small, light, and operates in any position. Dust-proof timing chamber assures long operating life with a minimum of maintenance.

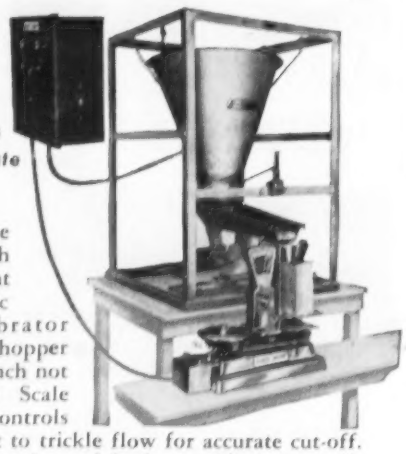
AGA DIVISION

Address Dept. A15-65
Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth, New Jersey

For more details circle NED-914 F7 on enclosed inquiry slip

EXACT WEIGHT

Weigh Feeders for fast, accurate packaging



Machines come complete with Exact Weight Scale, electronic controls, vibrator feeder and hopper (table and bench not included) Scale weighs and controls feed from fast to trickle flow for accurate cut-off. Exact Weight scales and feeder machines are available for every kind of packaging, semi-automatic or fully automatic. Complete range of models for packing a few grams up to 100 lbs. Write for literature.

Exact Weight Scales

Better quality control
Better cost control

THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
In Canada: P. O. Box 179, Station S, Toronto 18, Ont.

For more details circle NED-915 F7 on enclosed inquiry slip

WIRE CLOTH PARTS

Wire cloth parts fabricated to your order are a Newark specialty. One division of our company is fully equipped and staffed to to manufacture *any* part you need with a wire cloth insert.

We also offer an engineering service to assist you in design or redesign of your parts. Ours is a "one-stop" service . . . we deliver complete parts guaranteed to meet your specifications. Send for our Fabricated Parts Catalog.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY
351 Verona Avenue, Newark 4, New Jersey

For more details circle NED-916 F7 on enclosed inquiry slip

New Literature & Catalogs

Heavy Duty Portable Drill

Guibert Steel Co.—Drilling, reaming or countersinking holes 2½ in. and larger can be performed by the Toggle Bug, a heavy duty drill which can be maneuvered by one man to anywhere in the plant. Drill rolls on two or four roller-bearing wheels. Spindle speeds range from 150 up to 700 rpm.

For more details circle NED-917 F7 on enclosed inquiry slip

Magnetic Chucks & Holding Devices

Hanchett Magna-Lock Corp.—Handy pocket-size 28-page catalog 257 descriptively covers a complete line of magnetic chucks, holding devices and accessories. Offered as an easily-used reference, the catalog includes a table of constants useful to shop men.

For more details circle NED-918 F7 on enclosed inquiry slip

Coil Winding Equipment

Geo. Stevens Mfg. Co.—Eighteen of the 48 coil winding machines described in 62-page catalog 57 are new models. Machines wind virtually all types of coils, including bobbin, repeater, resistor, solenoid, transformer, variable pitch, armature, field, toroidal, space wound, continuous resistance and deflection yoke coils. A wire scraper, wire insulating equipment, tensions, counters and other accessories are covered as well. Helpful winding formulas are included.

For more details circle NED-919 F7 on enclosed inquiry slip

Electronic Relays

Essex Wire Corp., RBM Div.—Open and hermetically sealed electronic relays are described as to application, construction and engineering specifications in 8-page catalog 1050. Details cover coil voltages, resistance and wattage, contact forms available and approximate weight. Typical uses include communication equipment, computers, automatic controls, guidance systems and automation.

For more details circle NED-920 F7 on enclosed inquiry slip

Electromagnetic Controls

Electromagnetic controls are subject of 168-page illustrated catalog 57-S. Complete engineering data are given in separate sections which cover automatic transfer switches, remote control switches, magnetically held contactors, relays, alternating and direct current solenoids, and electric plant controls. Available only by writing on company letterhead to Automatic Switch Co., 50-56 Hanover Rd., Florham Park, N. J.

For more details circle NED-921 F7 on enclosed inquiry slip

Precision Fine Pitch Gears

Fairchild Camera & Instrument Corp., Precision Gear Dept.—16-page brochure discusses "Precision Fine Pitch Gears" and the methods and equipment used in producing these gears. Quality control is covered, and a section is devoted to latest recommended gear data formats used in requesting quotations and cost estimates.

For more details circle NED-922 F7 on enclosed inquiry slip

Pipe Identification System

Rust-Oleum Corp.—How to identify any piping system by color coding and lettering is outlined in illustrated manual 117. It gives specifications approved by the American Standards Association in conjunction with the National Safety Council and the ASME. Actual colors to be used for various fluids and gases are shown, as are sizes and frequency of legends.

For more details circle NED-923 F7 on enclosed inquiry slip

Pump Valve Units

Durabla Mfg. Co.—Redesigned pump valves that incorporate a taper-lock stud, self-locking nut and drop-on guard are shown in 8-page bulletin 400. Available in 2¼ to 6-in. sizes, these self-contained valve units are made in various alloys and materials for temperatures to 600° F, pressures to 800 psi and for handling practically any fluid in all types of reciprocating pumps.

For more details circle NED-924 F7 on enclosed inquiry slip

Automatic Spray Finish Machines

DeVilbiss Co.—Types of automatic transverse spray finishing machines covered in 12-page illustrated catalog 1-8010 are horizontal straight line, horizontal contour, vertical straight line and vertical contour. Specifications of all models and typical uses are given. It states that conversion from manual to automatic spray application markedly increases production.

For more details circle NED-925 F7 on enclosed inquiry slip

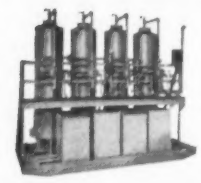
Barnstead

DEMINERALIZERS FOR PURE WATER

IN LAB QUANTITIES . . .

Extremely convenient where only a small amount of demineralized water is required. Flow rate 5 to 8 G.P.H. Pressure Bantam (at right) flow rate 5 to 25 G.P.H. Connects to any tap. No heat or cooling water needed.

. . . OR ON A GIANT SCALE



If you want demineralized water in production-run quantities you'll find what you need for your requirements from Barnstead's versatile and complete line of single-bed, mixed-bed, 2-bed, and 4-bed Demineralizers — all producing, at lowest cost, often as little as 5c per thousand gallons, water of the highest purity. Write for Catalog 127.

Barnstead STILL & DEMINERALIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

For more details circle NED-926 F7 on enclosed inquiry slip

Always, All-Ways . . .
ASSEMBLY READY!

Herringbone Helical
Spur Spiral
and other gears

GEARS

Dimensional Tolerances Held Closer Than Heretofore Thought Practical!

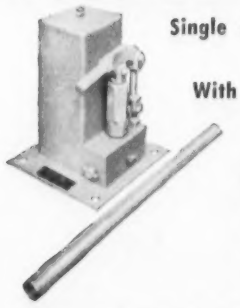
New, modern gear processing machinery now makes that old bugaboo "1 percent" anticipated reject figure a thing of the past! Starting resistance, shock loads, extra heavy duty jobs are smoothed out by precision-cut Industrial gears. Prices are held to close tolerances, too. Let IG become your one-source-of-supply Gear Department.

Write for complete, FREE "Gear Packet" showing Industrial Cut Gear products, applications, and services.

INDUSTRIAL GEAR MFG. CO.
4521 W. Van Buren St., Chicago 24, Ill.

For more details circle NED-927 F7 on enclosed inquiry slip

HAND
HYDRAULIC PUMP



Single and Double Designs to 20,000 Psi
With or Without Reservoir

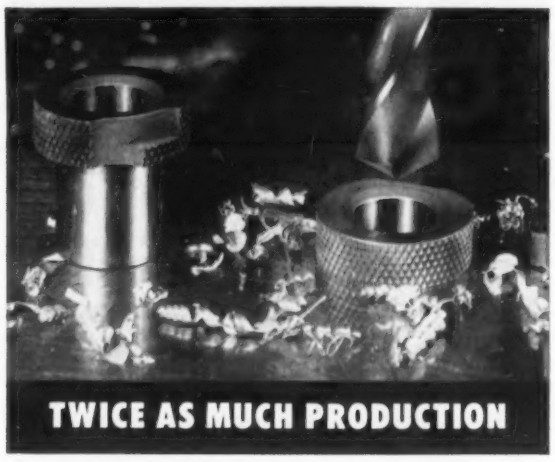
160 Cubic Inch Reservoir with 8" x 8" Base Plate. Optional Size Piston: ⅜", ½", ¾", 1". Handle length: 18 inches. Catalog No. 160

We specialize in hand pump units to operate in temperatures from minus 65F to plus 160 F and with any capacity reservoirs required.

The single pump with ½" or ¾" piston now available in stainless steel.

WILLIAM S. PINE
Hydraulic Hand Pumps for 1001 Uses
1635 E. 22nd St., Los Angeles 11, Calif.

For more details circle NED-928 F7 on enclosed inquiry slip



An automotive manufacturer tested Ex-Cell-O Bushings along with two other leading brands. The results speak for themselves. Average number of parts produced during .001" wear:

Company A.....1,045 parts
Company B.....1,910 parts
EX-CELL-O .....2,255 parts

EASIEST-TO-USE 16-PAGE CATALOG

This bushing catalog is the easiest-to-use in the industry, say Ex-Cell-O customers.

Logically breaks down into types, groups and sizes, complete with conversion chart. This 16-pager is yours free.

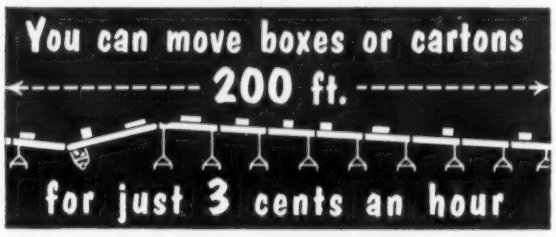
57-53

XLO

EX-CELL-O FOR PRECISION

EX-CELL-O CORPORATION DETROIT 32, MICHIGAN

▲ For more details circle NED-929 F7 on enclosed inquiry slip ▲



...with low-cost Farquhar Ve-Be-Veyor and Gravity Conveyors on the job!

Take a good look at this simple diagram. It shows you how one Farquhar Ve-Be-Veyor Aluminum Power Belt Conveyor and 18—10-foot sections of Farquhar Gravity Conveyors can be set up to move boxes or cartons 200 feet without a hand touching the load! Imagine moving 15 tons of merchandise —twelve hundred, 25-pound cartons—in one hour at the exceptionally low cost of only three cents an hour for power.

With a Farquhar Conveyor system you can keep your loading and unloading areas clear—speed work in process, too. Plan now to conveyorize your operation with Farquhar Conveyors. Write or wire for Booklet #500 that shows you how to set up such a simple, low-cost, efficient conveying system.

OLIVER Farquhar CONVEYORS

A. B. FARQUHAR DIVISION, The Oliver Corporation
Conveyor Dept. E-04
York, Pennsylvania
Factory Branch:
618 W. Elm St., Chicago 10, Ill.

POWER BELT AND GRAVITY CONVEYORS

Also makers of Farquhar Hydraulic Presses and Special Machinery

▲ For more details circle NED-930 F7 on enclosed inquiry slip ▲

New Processes & Materials

WELDING NOZZLE COMPOUND protects nozzle from splatter

Silicone-containing Linde 65 Sigma nozzle compound applied to welding nozzle prevents molten splatter from sticking to bore and mouth. Downtime required to clean nozzles is eliminated. Compound forms a thin protective coating which usually lasts about 8 hours, except where current level is high. Compound is greaseless, odorless and nontoxic. It is supplied in 4-oz can with spillproof plastic spout. Photo shows two nozzles subjected to 8 hours of carbon steel welding. Uncoated nozzle at right is heavily crusted with splatter. Made by **Linde Co.**, Room 2840N, 420 Lexington Ave., New York 17, N. Y.

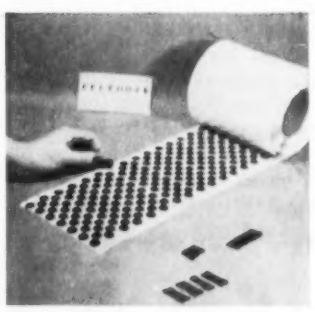
▲ For more details circle NED-931 F7 on enclosed inquiry slip ▲

RUST & SCALE STRIPPER used in iron or steel containers

Sludge, carbon and scale are removed while cleaning parts of rust by this alkaline type of rust stripper. It can be used in any iron or steel container and eliminates need for degreasing parts before rust removal. Produced in powdered form, it does not cause hydrogen embrittlement or pitting and is free of corrosive fumes. Stripper also serves as a carbon remover in hot tank use and can be used to rapidly deep-etch aluminum. Made by **Penetone Co.**, 74 Hudson Ave., Tenafly, N. J.

▲ For more details circle NED-932 F7 on enclosed inquiry slip ▲

ADHESIVE FELT offered in colored tape and tabs



Feltape pressure-sensitive adhesive felt is available in continuous rolls in standard widths from 1/8 to 2 in. and in 1/8 and 3/64-in. thicknesses. Also offered are Feltdots, individual round pieces with 1/4 to 3/4-in. diameters, and Feltabs, rectangular sizes 9/32-in. square to 3/16 x 1 3/16 in. Formerly available in gray and brown, line now includes green, beige and black. Gray is available in 1/8-in. thickness only and brown and gray colors are mothproofed. Felt is used to seal, stop vibration, reduce breakage, absorb shock and cushion adjacent parts. Samples are offered. Made by **J. B. Dawn Products**, Dept. 42, 3905 W. 64th Pl., Chicago 29, Ill.

▲ For more details circle NED-933 F7 on enclosed inquiry slip ▲

NEW! AO WHITE WELD-COOL WELDING HELMETS

Cooler — Reflect 70% Radiant Heat

Welders are 50% cooler, far more comfortable, more efficient in AO Weld-Cool 9702-W and AO 9706-W Helmets made of white reflective Fiber Glass. Aluminized Plastic Coverplate also furnished upon request. Inside of helmets are black — no possibility of harmful light diffusion. Fiber Glass Helmets also available with dark grey exterior. Order as AO 9702 and AO 9706.

Also 4 New AO Vulcanized Fiber Helmets

For complete details on AO Welding Helmets write for new Brochure *S-6311*.

American Optical COMPANY SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS

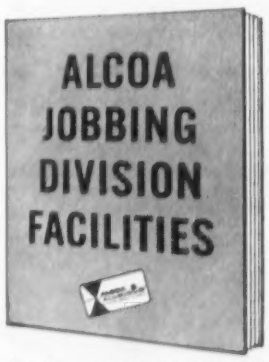
▲ For more details circle NED-934 F7 on enclosed inquiry slip ▲

We'll make it from ALUMINUM!

PHONE BOOTHS

Also shipping drums, tote boxes, pallets, tanks. Process equipment. Welded pipe. Electronic cabinets. Farm gates. Floats.

Let Alcoa's Jobbing Division bid on your complex or long-run jobs in fabricated aluminum. We have the men, the machines, the technical know-how PLUS the help of Alcoa's giant research facilities. Call your Alcoa sales office for more information on Alcoa's Jobbing Division.



FREE BOOK!

Describes equipment of Alcoa Jobbing Division. Shows kinds of jobs handled. 16 pages, easy reading, many pictures. Circle the Inquiry Card, or write: Aluminum Company of America, 1951-F Alcoa Building, Pittsburgh 19, Pa.

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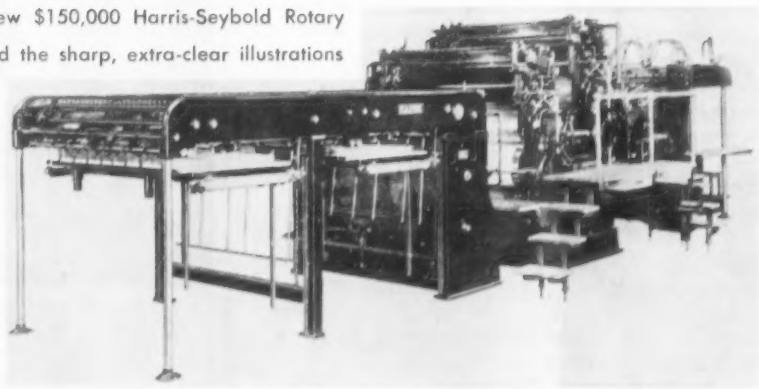
NEW READABILITY REPRODUCTION READER ACTION

We're now printing on this new $150,000 Harris-Seybold Rotary Press. You've probably noticed the sharp, extra-clear illustrations and the easy-to-read type in the most recent issues of NEW EQUIPMENT DIGEST.

This latest addition in the modernization of Penton's printing plant is tangible evidence of our policy of continuous improvement to readers and advertisers. Rotary printing, combined with reader-tested typography and quality coated paper, add up to increased readership.



Keep these advantages in mind when you want to announce new products or promote your established products to readers of more than 80,000 copies mailed each month to officials in 43,000 industrial plants.

NEW EQUIPMENT DIGEST

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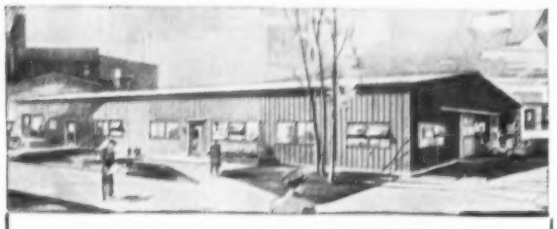

New Truscon Speed-Erect Standard Steel Building

Here's the latest design from the steel-building pioneer. This fire-resistant Truscon building is low in cost and can be quickly erected. It is movable and re-usable. Highest quality, weather-resistant, galvanized finish needs no painting. Bolted assembly—no field-welding required. Up to 48 feet wide and 12 or 14 feet high in any desired length. Immediate delivery. Write for latest bulletin.

TRUSCON STEEL DIVISION
REPUBLIC STEEL
1096 Albert St., Youngstown 1, Ohio

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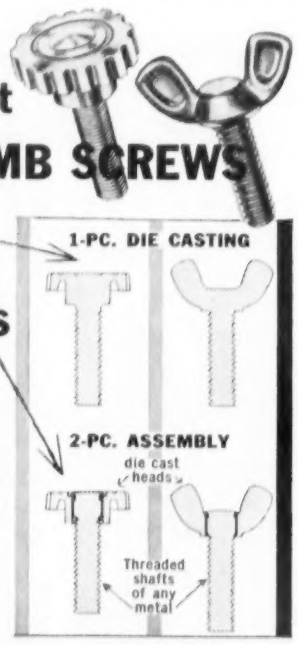
GRC die cast WING & THUMB SCREWS



4 types to meet ALL needs

GRC offers you quality, quantity and economy PLUS your choice of two basic styles—one-piece zinc alloy die cast fasteners or assembled zinc alloy blanks with screw material of steel, brass, aluminum or other metals to order. Wing Screws have special patented recessed finger grip, generous washer-type shoulder . . . Thumb Screws have exclusive wide top for firm, comfortable grip—plain or shoulder type. All have clean accurate threads . . . rust-proof, noncorrosive, bright finish. Select from huge catalog stock of threads, styles and lengths. Another example of GRC's wide variety of fasteners — wing nuts, cap nuts, thumb nuts, rivets, etc.—die cast in quantity for greater economy!

Write for prices and bulletin TODAY

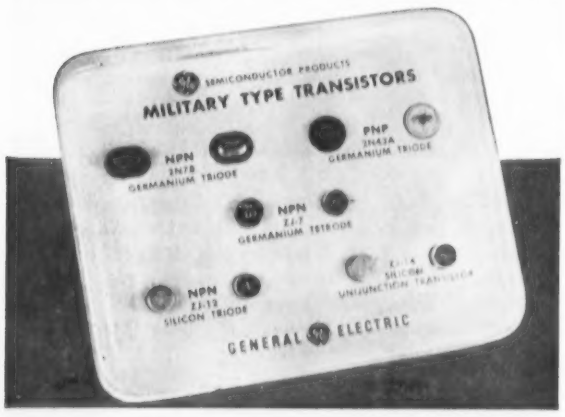
World's Foremost Producer of Small Die Castings

GRIES

GRIES REPRODUCER CORP.
143 Beechwood Avenue, New Rochelle, New York NEw Rochelle 3-8600

▲ For more details circle NED-938 F7 on enclosed inquiry slip ▲

SMALL and FRAGILE PARTS....



These G.E. transistors encased in a Lite-TUFF box are easily handled and displayed, yet completely protected.

A Lite-TUFF box may solve the problem of sales visibility plus *rugged* protection for you.

Full information and Plot Plan Sheets sent upon request.

SHOE FORM CO. INC.
Dept. B-20, Auburn, New York

▲ For more details circle NED-939 F7 on enclosed inquiry slip ▲

New Literature & Catalogs

Storage Racks & Bins

Sturdi-Bilt Engineering Co.—Innovations employed in Sturdi-Bilt adjustable storage racks and steel bulk bins which assure flexibility are outlined in 8-page bulletin SR-956 and 4-page bulletin BB-956. Racks will take loads up to 800 lb, and upright frames are available in 6 to 16-ft heights for stacking merchandise. Readily adjustable bulk bins safely hold up 2000 lb per shelf.

▲ For more details circle NED-940 F7 on enclosed inquiry slip ▲

Controlling Diameters Accurately

Industrial Gauges Corp.—Described in 4-page bulletin, Microlimit control wire gages and systems provide means for continuous, noncontact control of diameter of insulated wire; extruded tubing, rods, shapes and filaments; and special wires. Diameters from 0.001 to 0.75-in. are controlled accurately.

▲ For more details circle NED-941 F7 on enclosed inquiry slip ▲

Data on Permanent Magnets

General Electric Co., Metallurgical Products Dept.—Magnetic and mechanical properties, approximate tolerances, magnet assemblies and how-to-order information are covered for both cast Alnico 5 and sintered Alnico 2 permanent magnets in 12-page bulletin PM-121. Engineering data are given on bars, horseshoes, rotors, sleeves, disks and other shapes.

▲ For more details circle NED-942 F7 on enclosed inquiry slip ▲

Filters for Economical Production

Industrial Filtration Co.—Six major types of filters for industrial use are described in 8-page general bulletin. Types are disposable media gravity, combination gravity and magnetic, magnetic, vacuum, pressure and screen-settling filters. Filters are especially usable on production machines and processes, and capacities range up to 1000 gpm.

▲ For more details circle NED-943 F7 on enclosed inquiry slip ▲

Heat Treating & Processing of Metals

Pittsburgh Commercial Heat Treating Co.—32-page booklet entitled "Specialized Equipment and Skills Devoted Exclusively to the Heat Treatment and Processing of Metals" outlines facilities and services offered by this company. Included is a glossary of heat treating terms and a series of engineering tables.

▲ For more details circle NED-944 F7 on enclosed inquiry slip ▲

Steel Forgings

American Brake Shoe Co., AmForge Div.—Where, when and how to use steel forgings is explained in 16-page application guidebook. Also shown are drop, press and upset forging facilities. Plants in Chicago and Los Angeles are also equipped for die making and heat treating.

▲ For more details circle NED-945 F7 on enclosed inquiry slip ▲

Right-Angle Drives

Airborne Accessories Corp.—ANGLgear standardized right-angle bevel gear drives in 5, 1 and ⅓-hp ratings, in two and three-way types, and with 2:1 or 1:1 shaft ratios are subject of engineering bulletin 57. Performance curves as well as application data are included.

▲ For more details circle NED-946 F7 on enclosed inquiry slip ▲

Special Resistance Welders

Taylor-Winfield Corp. — Thirty-two multiple-spot and projection resistance welding machines for such items as automotive parts, appliances, precision instruments, electric motors and steel processing are shown and briefly described in 12-page special machine bulletin 8-413.

▲ For more details circle NED-947 F7 on enclosed inquiry slip ▲

Hydraulic Oil & Lubrication Guide

Lake Erie Machinery Corp.—Prepared for users of hydraulic presses, 16-gage "Hydraulic Oil Data and Lubrication Guide" deals with supervision of hydraulic systems, preventive maintenance, oil specifications and lubrication.

▲ For more details circle NED-948 F7 on enclosed inquiry slip ▲

How to Make Boxes & Packages

Acme Steel Co.—"A Guide to Better Closures" offers means for evaluation of methods currently used to effect economies and increase production in the closure of fiberboard boxes. Advantages of hand and machine gluing, taping, stapling and wire stitching are discussed. Wire stitching equipment for fiberboard boxes is described in this 20-page booklet.

▲ For more details circle NED-949 F7 on enclosed inquiry slip ▲

READ BOTH AC AND DC with TONG TEST Ammeters

Only Tong Test measures both alternating and direct current. Simply snap the tongs around electrical conductor for instant readings . . . only one scale to read at a time. Ranges up to 1000 amperes are quickly interchangeable, cannot burn out for there are no windings.

Lightweight, accurate, safe, dependable . . . Columbia Tong Test is available in five types to accommodate conductors up to 3⅞" diameter, or bus bars up to 4½" x ½".

6498-CE

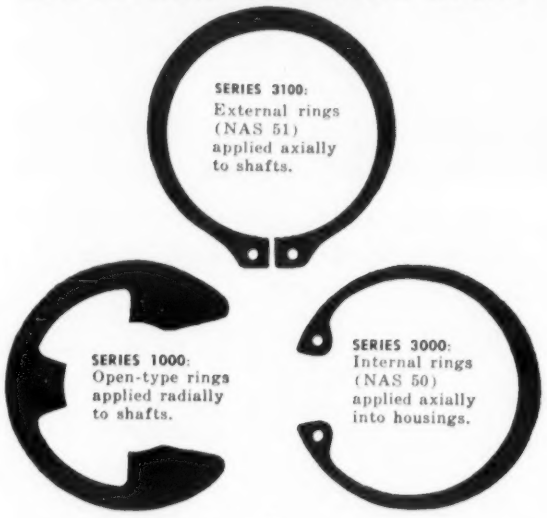
COLUMBIA

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Avenue, Cleveland 14, Ohio

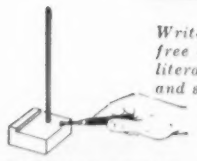
• Write for 8-page Catalog ND-400

▲ For more details circle NED-950 F7 on enclosed inquiry slip ▲

INDUSTRIAL RETAINING RINGS



RINGS SERIES 1000 may be ordered stacked for easy one-at-a-time dispensing.



Write today for free descriptive literature and samples.

INDUSTRIAL RETAINING RING CO.
57 CORDIER STREET, IRVINGTON 11, NEW JERSEY

▲ For more details circle NED-951 F7 on enclosed inquiry slip ▲

FREE MANUAL for Practical Electrical Men Tells How To Use MEGGER® INSULATION TESTERS

For electrical insulation resistance measurements, Megger® instruments are the recognized standard—the World over.

Write now for the increasingly popular Megger Manual of Insulation Testing together with helpful material on the practical and economic advantages of planned electrical preventive maintenance. B-704

Write on your company letterhead for BULLETIN 21-D

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle NED-952 F7 on enclosed inquiry slip ▲

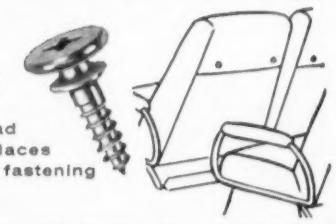
IN STOCK! AVAILABLE NOW!
54 Different SETS OF
BOKUM BORING TOOLS

You'll find it convenient to have Bokum Boring Tools in sets — containing just the sizes you most frequently use. There are 54 different assortments of tools in stock at all times—packaged in neat, sturdy wooden cases. Combinations can be made up to answer any specific production requirement. Tools are available in both carbide-tipped and high speed steel. Write for catalogs illustrating this extra convenience.

BOKUM TOOL CO. INC. 14775 Wildemere Ave. Detroit 38, Mich.

For more details circle NED-953 F7 on enclosed inquiry slip

Count on Continental for
special fasteners
designed for extra savings



For a bus builder, this Continental-designed fastener serves as a towel-holding button, — replaces separate wood screw and metal button. Savings in parts cost — 10%. Faster, easier driving saves still more in assembly time and fastener waste.

Continental Assembly Specialists' advice is unbiased, since standard Holtite Fasteners include all types. If a "special" is the best answer, you can rely on Continental design experience for extra savings.

What's your fastening problem? Write Dept. ND for full details.

CONTINENTAL
SCREW COMPANY, NEW BEDFORD, MASS.
HOLTITE FASTENERS
HOLTITE PHILLIPS AND SLOTTED HEAD
WOOD • MACHINE • TAPPING • THREAD CUTTING • SEMS • NYLOK
HY-PRO PHILLIPS INSERT BITS AND HOLDERS

For more details circle NED-954 F7 on enclosed inquiry slip

ONLY ONE MOTOR DOES THE JOB BEST

Peerless has hundreds of motors—many designed for specific applications. These motors were job-engineered to get the utmost in efficiency from the machines they drive. Bring your motor problems to Peerless. Our engineers will work with you to produce the one motor that powers your product best.

ELECTRIC MOTOR DIVISION
THE Peerless Electric COMPANY
FANS · BLOWERS · MOTORS · ELECTRONIC EQUIPMENT
1506 W. MARKET ST. • WARREN, OHIO

For more details circle NED-955 F7 on enclosed inquiry slip

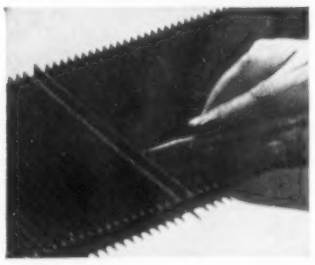
New Processes & Materials

ULTRASONIC DRILLING SERVICE
cavitates hard, brittle materials

Holes, designs or irregular shaped cavities can be produced in ceramics, carbides, glass, germanium, ferrites, quartz, gems and similar hard, brittle materials by an ultrasonic drilling and grinding service offered by company. Technique employs abrasives in liquid suspension which are driven by an ultrasonic transducer that vibrates at 25,000 cps. The most intricate shapes and patterns can be produced to rigid tolerances, without changing internal grain structure of material being worked. No heat is generated. Service offered by **Zenith Optical Laboratory,** 1942 Great Neck Rd., Copiague, L. I., N. Y.

For more details circle NED-956 F7 on enclosed inquiry slip

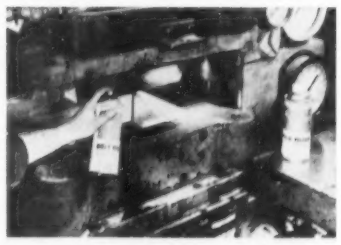
RIBBED CONVEYOR BELT
carries light or heavy packages



Lightweight packages are carried as easily as heavy cartons on the Griptite ribbed rubber conveyor belt, designed for steep-angle conveyor operations. Packages are held in place by a series of ¼-in. high inverted V-shaped ribs that grip them during incline or decline. Extra holding is provided by ⅜-in. high raised ribs or cleats spaced 18 in. apart which also help move packages onto the belt. Angle of operation can be up to 45 degrees. Made by **B. F. Goodrich Industrial Products Co.,** Dept. 0745, Bldg. 24-B, Akron, O.

For more details circle NED-957 F7 on enclosed inquiry slip

MOLD RELEASE AGENT
for molded rubber and plastic parts

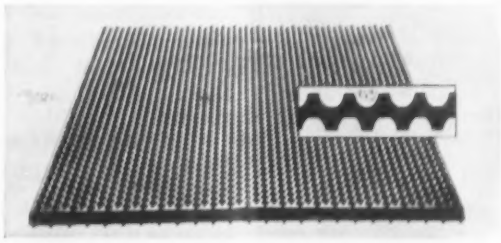


Solution of low molecular weight polyethylene in a mixed solvent system is supplied in a pressurized aerosol container as Poly-Lease 77, a mold release or parting agent for use in production of molded plastic and rubber products. It can be sprayed on hot or cold surfaces to form a relatively hard, smooth film. It can be used with various plastics, rubber and casting or potting resins in molds made of wood, plaster, plastic, steel or aluminum. Made by **Allied Chemical & Dye Corp.,** Barrett Div., Dept. 9, 40 Rector St., New York 6, N. Y.

For more details circle NED-958 F7 on enclosed inquiry slip

ANTIFATIGUE MAT
eases strain of standing

Muscular fatigue of standing workers is relieved by this Stand-Ease rubber floor mat which also provides a safe, nonskid area. Cushioning effect is achieved



by molded arch supports alternately placed on each side of mat. Pounding and vibration are absorbed by the full ¾-in. thickness of resilient rubber. Raised surfaces keep feet out of liquids and dirt on the floor, helping to reduce the hazard of slipping. Made by **Keaton Rubber Co.,** 100 Belleville Turnpike, Kearny, N. J.

For more details circle NED-959 F7 on enclosed inquiry slip

Spring Washers
FLAT-CUPPED
SLOTTED
BENT
BELLEVILLE

Hundreds of Stock Tools on Hand

ASSOCIATED SPRING CORPORATION
General Offices: Bristol, Connecticut
© 1957 A.S.C.

For more details circle NED-960 F7 on enclosed inquiry slip

PREVENT ACCIDENTS DUE TO HOLES, RUTS, CRACKS . . . WITH
SONOPATCH

Sonopatch is a quick, easy-to-use, fast-setting floor repair material that can be trucked over within one hour of patching. It attains a compressive strength that will support loads up to 10,000 lbs. . . . and will take loads under steel casters after 24 hours!

Sonopatch is a non-bituminous hydraulic material which combines with water to form an ideal rigid patching compound.

Use Sonopatch for: Repair of holes and cracks in concrete floors; setting of anchor bolts for light machinery; anchoring of hand rail supports; and a hundred other similar jobs!

A Product of Sonneborn RESEARCH

for over 50 years manufacturers of quality building products

MAIL COUPON FOR MORE FACTS!

L. SONNEBORN SONS, INC.
Building Products Division, Dept. N6, 404 Fourth Ave., New York 16, N. Y.
☐ Yes, I would welcome full information on Sonopatch
☐ Please see that I receive your Building Construction and Maintenance Handbook with 125 pages of important information.

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... STATE .....

For more details circle NED-961 F7 on enclosed inquiry slip

C'MON BOSS, IT'S MY TURN

NEW
ClarkeAmatic FLOOR MAINTAINER

You'll want to use the Clarke-A-matic, too. Because this brand new self-propelled floor maintainer operates so easily . . . *scrubs large floor areas 10 to 20 times faster than ordinary mopping*, cleans up to 28,200 sq. ft. per hour. It automatically meters solution, scrubs, rinses, picks up dirt and solution, and dries . . . all in one easy operation. It's packed with startling, new engineering features that save time, cut costs and make floor maintenance a "snap".
The two-speed Clarke-A-matic has twin brushes, concealed cable reel, and double size vacuum tank. Electrically powered—also with propane or gasoline motors. Two models: 26" and 30" brush spreads.

Clarke *For details, write:* SANDING MACHINE CO.
226 CLAY AVENUE • MUSKEGON, MICH.

For more details circle NED-965 F7 on enclosed inquiry slip

dependable

ANCHOR VERTICAL SPEED REDUCERS

Designed specifically for conveyor applications requiring a vertical output shaft (up or down), and extended bearing housing for high overhung load, ANCHOR Reducers feature readily accessible helical gears for ratio changes. Available from stock in six sizes, ratios up to 1800:1. Write for Bulletin 57-1.

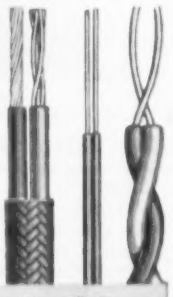
ANCHOR STEEL & CONVEYOR CO.
6906 KINGSLEY AVE. DEARBORN, MICHIGAN

For more details circle NED-966 F7 on enclosed inquiry slip

Direct Temperature Reading
On ANY SURFACE or in ANY MATERIAL

The Xactemp Hand Pyrometer is the answer to quick, accurate temperature determination in countless processes and operations. And, it's so convenient to use.
Model LT-840 Xactemp Hand Pyrometer can be used with surface, ribbon, needle, and handle thermocouples and with rigid and flexible extension arms. All are quickly interchangeable—without adjustments. Recommended for field service, laboratory, and production-line use.
Ask for Bulletin XT351
5648

"SERV-RITE"
THERMOCOUPLE WIRE and EXTENSION WIRE



Most standard wires and insulations are carried in stock for quick delivery. Other insulations, in long or short runs, are manufactured to specifications.
Serv-Rite wire is insulated in Gordon's own wire plant under rigid controls to assure consistent, uniform high quality.
Bulletin 1200 gives general application data, description of the wires, and ordering information. Ask for a copy.

CLAUD S. GORDON CO.
Manufacturers—Engineers—Distributors
621 West 30th Street, Chicago 16, Ill.
2013 Hamilton Ave., Cleveland 14, Ohio

For more details circle NED-967 F7 on enclosed inquiry slip

New Literature & Catalogs

Industrial Hose & Fittings

Aeroquip Corp.—How-to-order, installation planning and assembly instructions relative to low, medium and high pressure hose and fittings, adapters, self-sealing couplings and other Aeroquip products are provided in 12-page bulletin 182. An abbreviated version of the complete line industrial catalog, this bulletin is primarily intended for use in the replacement field.

For more details circle NED-968 F7 on enclosed inquiry slip

Cam-Actuated Clamp

Morton Machine Works—The Jig Nut, a cam-actuated clamping unit for application to any clamp stud or T-slot bolt provides a clamping pressure of 5000 lb. Described in illustrated 4-page folder, it has a handle that rotates for a 360-degree range of locking positions. Specifications are given.

For more details circle NED-969 F7 on enclosed inquiry slip

Relays, Timers & Flashers

Electronic Specialty Co.—General catalog describes products made in three divisions of this company. They include high temperature, high shock and contamination-free airborne power and electronic circuit relays; electronic flashers, time delay relays, sequence timers, over and under voltage and frequency sensors, and RF systems and components.

For more details circle NED-970 F7 on enclosed inquiry slip

Plant Safety Aids

Set of 11 x 14-in. cartoon type safety posters for plant display and group of colorful directional and warning signs are included in a plant safety kit, along with booklet on correct lift truck operation. Available free of charge by writing to Towmotor Corp., 1226 E. 152nd St., Cleveland 10, O.

For more details circle NED-971 F7 on enclosed inquiry slip

Precision Molded Parts

Gries Reproducer Corp.—Over 65 different types of zinc alloy die-cast and thermoplastic molded products, available from stock, are shown and described in 9-page "Services and Products" bulletin. Details are given on the Intercast process for making zinc alloy units with movable elements. Described are plastic and zinc gears, pinions, coil bobbins, fasteners and precision parts.

For more details circle NED-972 F7 on enclosed inquiry slip

Selecting Corrosion-Resistant Pumps

American Hard Rubber Co.—How to select the proper corrosion-resistant pump for any application up to 350 gpm is explained in 20-page manual CE-55. It presents comparative data on molded hard rubber centrifugal, rubber-lined centrifugal, neoprene impeller and gear pumps. Type of service and materials handled are discussed.

For more details circle NED-973 F7 on enclosed inquiry slip

PROVED...
IN YEARS OF SERVICE

KEY Graphite Paste

has been on the market more than 35 years, has been proved the superior compound in millions of joint, thread and gasket applications for oil, gas and high pressure steam services.

KEY Paste is used in large volume in virtually every oil refinery; is endorsed by leading oil and gasoline equipment manufacturers.

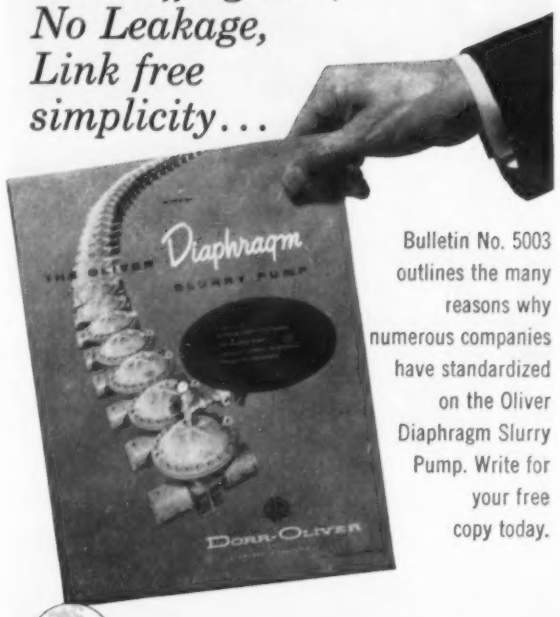
Order KEY Graphite Paste from your Supply House.

SEND FOR YOUR FREE SAMPLE
Write Dept. Z-6 for trial can of KEY Graphite Paste

W-K-M
DIVISION OF acf INDUSTRIES INCORPORATED
PLANT: MISSOURI CITY, TEXAS
MAILING ADDRESS: P. O. BOX 2117, HOUSTON, TEXAS

For more details circle NED-974 F7 on enclosed inquiry slip

No Stuffing Box, No Leakage, Link free simplicity...

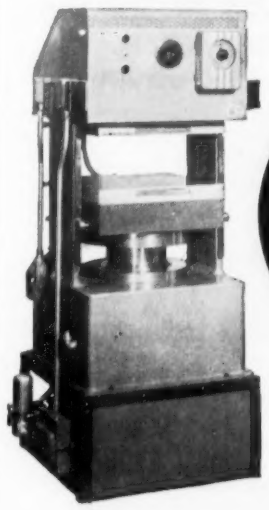


Bulletin No. 5003 outlines the many reasons why numerous companies have standardized on the Oliver Diaphragm Slurry Pump. Write for your free copy today.

DORR-OLIVER INCORPORATED
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
STAMFORD • CONNECTICUT • U.S.A.

For more details circle NED-975 F7 on enclosed inquiry slip

The P·H·I *Automatic 70 Ton Hydraulic Press*



ELECTRIC
Hydraulic System, Cycle Timer, Heated Platens and Temperature controls

18"x 18" Platens to 600° with thermoswitch controls.
Two position ram gives 8"& 12" Daylight.
8" stroke with down stroke trip.

larger presses built to customers specifications

P·H·I PRESS

Write for Circular
PASADENA HYDRAULICS INC.
1433 North Lidcombe St.
El Monte, California

For more details circle NED-976 F7 on enclosed inquiry slip

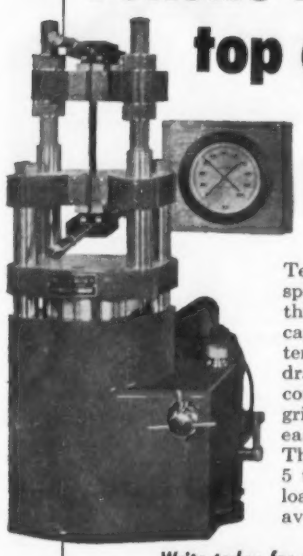
Here's 85 cfm of smooth, dependable
GYRO-FLO AIR POWER
for your small jobs

With the Gyro-Flo 85-cfm rotary compressor, you can save time, effort and expense on a host of small jobs where a larger compressor is not needed. This newest addition to the famous Ingersoll-Rand Gyro-Flo line weighs only 1840 lb as a complete portable unit, and only 1325 lb for truck mounting. For complete details, send for Form 2307.

Ingersoll-Rand
11 Broadway, New York 4, N.Y.
2-610

For more details circle NED-977 F7 on enclosed inquiry slip

Tensile test with top accuracy



Use this simple hydraulically powered fast-acting tester

Test the tensile strength of spotwelds, strip, wire, anything within its 20,000 lb. capacity. The Model ST-1 tensile tester has a hydraulically powered, easily controlled ram. Self-acting grips are open-sided for easy specimen insertion. They will accept specimens 5 to 9" in length. Various load gauges and grips are available.

Write today for more information

DETROIT TESTING MACHINE COMPANY

9394 Grinnell Avenue, Detroit 13, Michigan

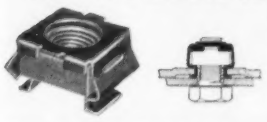
For more details circle NED-978 F7 on enclosed inquiry slip

TINNERMAN

SPEED GRIP®

NUT RETAINERS

THE MOST ADVANCED METHOD

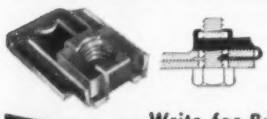


STANDARD — Eliminate welding, clinching, staking, hole misalignment and paint clogging! SPEED GRIPS are easily attached by hand. "Mechanical hands" hold nut in bolt-receiving position.

OF ATTACHING SQUARE NUTS

SELF-ANCHORING — Contains a special locking feature for permanent retention. High-torque holding power. Rattle-proof, cannot be dislodged even with abusive handling.

TO SHEET METAL PANELS • • •



"J" TYPE — Snaps over panel edges by hand; ideal for blind locations. Self-retained in bolt-receiving position. Extrusion in retaining leg assures constant alignment.

Write for Bulletin No. 335

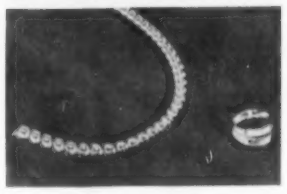
TINNERMAN PRODUCTS, INC.

BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-979 F7 on enclosed inquiry slip

New Processes & Materials

METALLIC COLORED PLASTICS extruded in straight and spiral form



Lustrous gold, brass, silver, chrome and anodized aluminum colors are achieved by extruding clear and tinted translucent Spectro Chrome straight and spiral plastic over metallic core materials. Plastic can be used for many decorative and display purposes. Handles, jewelry, book bindings and trim on wrought iron ware are typical. Spectro-Chrome is available in round spirals from minimum of 1/8-in. to any practical diameter. Square and rectangular spirals of varying dimensions are also offered. Straight extrusions are made to specification. Made by **Schwab Plastics Corp.**, Dept. NED, 730 S. Dix Ave., Detroit 17, Mich.

For more details circle NED-981 F7 on enclosed inquiry slip

EXTREME PRESSURE GREASE for high and low temperatures

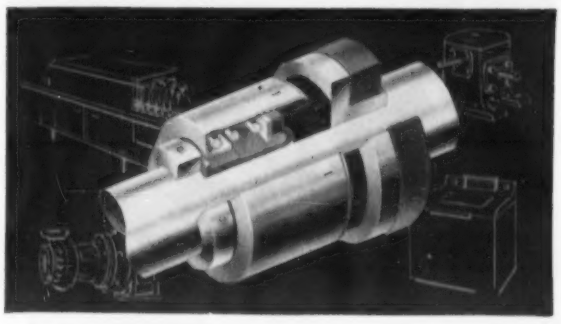
All types of bearings operating under extreme loads, both in water and at high and low temperatures, are applications for Polylube EP grease. The nonmelting multipurpose product contains rust and oxidation inhibitors and is colored green for identification. Made by **Bel-Ray Co.**, Dept. 102, Green Village Rd., Madison, N. J.

For more details circle NED-982 F7 on enclosed inquiry slip

PLASTIC COATING for glass fiber-plastic panels

Five colors and clear are available in Corrucote, a coating for resurfacing old glass fiber-reinforced plastic building panels. It can also be used on new sheets for reduction of light transmission. Basically an acrylic lacquer, it dries tack-free in 20 minutes. Spray coverage is about 300 sq ft per gallon. One coat can be brushed on, but spray application minimizes streaks. Photo shows (top to bottom on panel) old surface with glass fibers showing, cleaned old surface, and surface with one clear, one green and two green coating applications. Made by **L-O-F Glass Fibers Co.**, Corrulux Div., Dept. GC-11, Box 20026, Houston 25, Tex.

For more details circle NED-983 F7 on enclosed inquiry slip



THE PACKAGED SEAL *of a hundred uses*

This Garlock MECHANIPAK* Seal BB-21A has proved itself on hundreds of jobs, sealing against water, oils, alcohol, mild acids, and solvents. It's ideal for shafts on centrifugal pumps, automatic washers, speed reducers, commercial dishwashers . . . wherever pressures do not exceed 150 psi.

Withstands temperatures to 212° F. with standard bellows or up to 400° F. with silicone rubber bellows . . . shaft speeds to 2000 fpm and higher depending on operating conditions. Sizes for 3/8" to 3" dia. shafts. Mechanical drive arrangement is engineered to eliminate slippage and simplify installation. Write for Catalog AD150.

*Registered Trademark

THE GARLOCK PACKING COMPANY, Palmyra, N.Y.

For Prompt Service, contact one of our 30 sales offices and warehouses throughout the U. S. and Canada.

GARLOCK

For more details circle NED-984 F7 on enclosed inquiry slip

How to cut costs of handling small parts:

Start with a

Feedall

AUTOMATIC TRANSFER CONVEYOR

for fully mechanized operation

USE THIS MACHINE

Wherever faster delivery, feed or transfer of small parts means real time-saving.

Wherever continuous flow of parts between production machines cuts costs.

Wherever fully automatic parts handling saves manpower, speeds production.

Specifications, MODEL 1600B

RANGE: handles parts 1/4" to 2-1/4" dia., length to 62-1/2".
CONVEYOR: standard model has 1-3/4" frame width.
SPEED: variable drive, 5 to 20 feet per minute.
DRIVE: 1/4 H.P. three-phase, 220-440 volts.

Moving small parts between production machines slows down output. You have to do extra handling. That takes manpower, increases costs. But with Feedall's Parts Transfer Conveyor, *the operation's fully automatic*

Model 1600B is a totally self-contained and automatic unit. It provides high-speed delivery, feed or transfer of small parts between centerless grinders, milling machines, presses, induction heating machines and similar production operations. Variable speed drive permits a perfect match with any desired flow rate. Other features include heavy steel side-plates, nylon bearings, simple installation, heavy-duty long-life construction, minimum maintenance and very low operating cost.

For Practical Help: write or phone for detailed information in latest catalog and including estimate data sheet. Tell us your parts feeding problems and let our experienced engineers help you cut costs.

Feedall — *Designers and Builders of Automatic Feeding Devices* FEEDALL, INC. • WILLOUGHBY, OHIO

BLADE, ELEVATING, ROTARY AND VIBRATORY FEEDERS
ELEVATING TRANSFER CONVEYORS, SPECIAL SELECTOR DEVICES

For more details circle NED-985 F7 on enclosed inquiry slip

LEAKY MASONRY WALLS?

Protect them and add new beauty with

HYDROCIDE

COLORCOAT

Yes, one coat of this oleoresinous masonry finish beautifies and makes outside walls weather-resistant. Contains silicone to make it water-repellent! One coat has unusual hiding power, is several times thicker than paint!

L. SONNEBORN SONS, INC.
Building Products Division, Dept. N6
404 Fourth Avenue, New York 16, N. Y.

We are interested in more facts on

☐ Hydrocide Colorcoat and how it reduces building maintenance
☐ Also send FREE 128-page Building Construction and Maintenance Handbook.

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A Product of Sonneborn RESEARCH

Since 1903 manufacturers of quality building products

For more details circle NED-980 F7 on enclosed inquiry slip

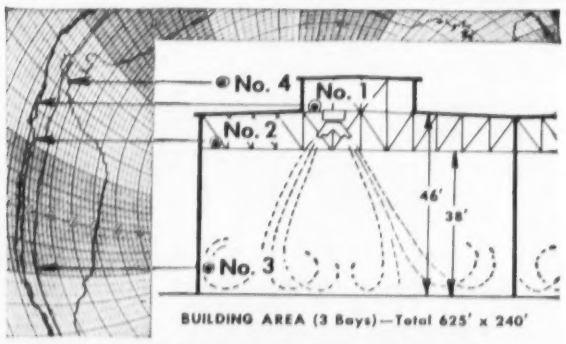
Helpful 56 page book FREE

if you use saws send for this book

This free book is based on facts and experience from many years' use of Foley precision saw filing equipment in thousands of plants. It contains pictures and helpful data showing how firms have actually increased sawing production 25% to 40%, lengthened saw life, reduced breakage, produced better work, and have lowered maintenance costs (one firm reports an annual saving of $350). Book includes instructions illustrating how automatic sharpening can benefit you. Request Manual No. 100—no obligation.

FOLEY MANUFACTURING CO. • 3323 N.E. 5th St., Minneapolis 18, Minn.

For more details circle NED-986 F7 on enclosed inquiry slip



RECORDED PROOF OF THE EFFICIENCY OF WING REVOLVING UNIT HEATERS

Over four weekly periods from February to April, a series of temperature readings was made at Budd Company's Philadelphia plant to determine the vertical temperature gradient. The following averages were recorded: No. 1 (in monitor) 75.5°F.; No. 2 (in truss chord) 73°F.; No. 3 (at working level) 66.5°F.; No. 4 (outside)—ranged between 20° and 70°F. Complete and uniform heating with Wing Revolving Unit Heaters is shown by the low temperature differential between roof and working level. *Write for Bulletin HR-6A.*

L. J. Wing Mfg. Co. 165 Vreeland Mills Rd., Linden, N.J.

Factories: Linden, N. J. & Montreal, Can. • In Europe: WANSON, Haren-Nord, Brussels, Belgium

WING REVOLVING UNIT HEATERS

For more details circle NED-987 F7 on enclosed inquiry slip

NO MORE BURNS!

KRE-X • ELIMINATES TAR KETTLES
KRE-X • ELIMINATES FIRE HAZARDS
KRE-X • CUTS FUMES AND BURNS

Kre-X, the modern semi-liquid bond for creosoted wood block flooring is cold-applied, safe and easy to use. Does away with tar kettle hazards. Eliminates toxic fumes—prevents accidents—slashes labor costs. Completely seals and cushions wood block against the shock of heavy traffic. Waterproof, oil and acid resistant. Will not chip out between blocks. Sets rapidly—repaired areas can be subjected to heavy trucking immediately—no interruption of plant routine. . . . Write today for information from . . .

Hayden - Shaw
MINERAL PRODUCTS
7814 W. Jefferson, Detroit 17, Mich. • VI 1-1571

For more details circle NED-988 F7 on enclosed inquiry slip

New Literature & Catalogs

Spring-Pressure Cartridges

Associated Spring Corp.—Consisting of preassembled stacks of multiple spring washers in a single compact unit, Energy Cartridges are easily installed as components of machines and equipment. They serve as shock absorbers, supply large amount of force in limited range of deflection, exert force at low rate and maintain relatively constant pressure. Engineering and application data are given in 6-page folder.

For more details circle NED-989 F7 on enclosed inquiry slip

Subland Cutters

Detroit Reamer & Tool Co.—How subland cutting tools effect economies by performing combinations of operations such as drilling and counterboring, drilling and reaming, and drilling and chamfering is explained in 6-page folder. Available types of multipurpose subland tools are described.

For more details circle NED-990 F7 on enclosed inquiry slip

Jig & Fixture Component Templates

Northwestern Tool & Engineering Co.—Full-scale tracing templates of over 200 jig and fixture components are contained in 8-page folder. Line drawings are included for jig feet, quarter-turn screws, flange nuts, hand knobs, keys, screws, toggle shoe clamps, V-pads and T-slot nuts.

For more details circle NED-991 F7 on enclosed inquiry slip

Induction Heating News

Lepel High Frequency Laboratories, Inc.—Published periodically for manufacturers that use heat in their operations, "High Frequency Induction Heating Review" will be sent regularly to enginering and specifying officials. It will include news of uses of induction heating, development of special fixtures, case studies and details of induction heating equipment.

For more details circle NED-992 F7 on enclosed inquiry slip

Uses of Retaining Rings

Thompson Products, Inc., Piston Ring Div.—1957 catalog and application idea manual for Spirolox retaining rings describes hundreds of uses for these gapless, coil-action fasteners. Data show how rings expand or contract to position or lock pinions, bushings, bearings and other moving parts on shafts and in housings. Rings afford savings in weight, space, machining and assembly time.

For more details circle NED-993 F7 on enclosed inquiry slip

Towing Conveyors

Jervis B. Webb Co.—Design, features and applications of in-floor and overhead Towveyors for material handling in warehouses, terminals and manufacturing plants are depicted in 44-page catalog 157. Typical plant layouts and advantages of this system for pulling tow-trucks between machines or departments are covered.

For more details circle NED-994 F7 on enclosed inquiry slip

Press Work Guide

E. W. Bliss Co.—"Computations for Metal Working in Presses" is a 50-page illustrated manual. It contains data and alignment diagrams for computing pressure and sustained work capacity of presses and requirements of various jobs. Also included are formulas and charts on blanking and shearing; drawing and reducing; ironing; coining, sizing and forging; and extrusion. Guidance is offered on selecting the right press for a job, and on properties of metals.

For more details circle NED-995 F7 on enclosed inquiry slip

Office Duplicating Ideas

A. B. Dick Co.—Uses of office duplicating to help turn ideas into action are outlined in illustrated "Copies Catalog." Samples of duplicated materials that can be produced in the office by offset, mimeograph, spirit and Azograph processes are included and advantages of each process are described.

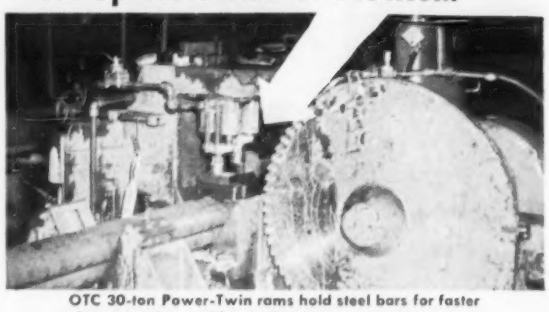
For more details circle NED-996 F7 on enclosed inquiry slip

Where to Use Gas Unit Heaters

Reznor Mfg. Co.—"Application of Gas Unit Heating" is pocket-size bulletin No. SA-571 which offers guidance in selecting and applying gas unit heaters and systems to specific installations. Such factors as size, type, burners, air distribution equipment, controls, location, venting and estimating heat loss are discussed. Table gives specifications of Reznor unit heaters.

For more details circle NED-997 F7 on enclosed inquiry slip

OTC Rams Slash Blade Costs 25% . . . Up Steel Mill* Production!



OTC 30-ton Power-Twin rams hold steel bars for faster cleaner cutting—without vibration.

Slicing thick steel rolled stock is tough on any blade—even carbon steel. But four OTC 30-ton rams helped this steel mill do the job faster, more economically—and get cleaner cuts.

Two rams grip the steel-stock on either side of the saw blade to prevent vibration and "chatter." The other two rams position the billets for faster handling.

Results: Blade wear extended over 25 per cent, "production increased considerably."

OTC Power-Twin rams—or other tools from the complete OTC line—might show you time—and money-savings. For information write

*Mill name on request

OTC OWATONNA TOOL CO.
436 CEDAR ST., OWATONNA, MINN.

For more details circle NED-998 F7 on enclosed inquiry slip

Quickdraft... the world's most efficient power exhauster

N-400-QD

...for industry

★ NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE
★ NEEDS NO STACK
★ ACID RESISTING VITREOUS ENAMEL FINISH

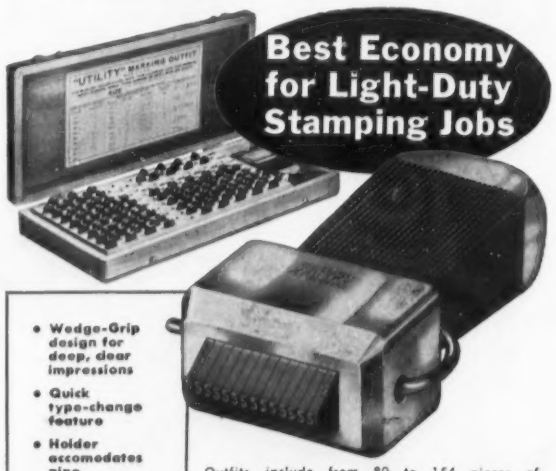
Quickdraft improves industrial exhausting and cuts maintenance costs. Its blower operates in clean or outside air . . . eliminating down-time for cleaning and replacing fan blades. Quickdraft excels in venting paint booths . . . lightweight and abrasive waste . . . cellophane cuttings . . . chemical fumes . . . corrosive gases . . . noxious fumes . . . high temperatures . . . moisture and smoke. For heating units, it maintains constant draft required for efficient and economical combustion of all fuels. *Send for engineering data . . . today.*

NOW, all sizes can be furnished with static pressures up to 10-inches . . . and in type-1 Rigid Polyvinyl Chloride for withstanding highly corrosive acids.

Quickdraft COMPANY
P. O. Box 87-L, Dueber-Hampden Bldg., Canton, O.

For more details circle NED-999 F7 on enclosed inquiry slip

Best Economy for Light-Duty Stamping Jobs



• Wedge-Grip design for deep, clear impressions
• Quick type-change feature
• Holder accomodates nine type sizes

Outfits include from 80 to 154 pieces of type—plus a holder made from non-spalling, non-mushrooming Mecco Safety steel.

Write for Bulletin UT . . . or for Instruction Sheet on use of steel stamps.

Mecco SAFETY UTILITY MARKING OUTFIT

A product of the Marking Device Industry

M. E. CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-1000 F7 on enclosed inquiry slip

STRAP PACKAGES AUTOMATICALLY on the USS GERRARD Model 12

Up to 24 ties per minute on this automatic round strapping machine. Lowest-cost automatic on the market. Straps packages from 8" x 2" up to 26" x 20". Handles varied-size packages without adjusting. Uses USS GERRARD Round Strapping—14 ga. thru 18 ga. Tension can be pre-set. One-shot lubrication cuts maintenance costs. Model 12 needs only 11½ sq. ft. of floor space. Want to know more about this automatic strapping machine? Write to:

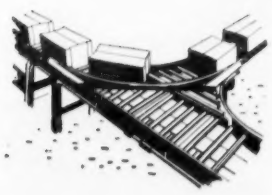
GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 South Richmond Street, Chicago 32, Illinois

USS GERRARD
ROUND STEEL **STRAPPING** FLAT STEEL
UNITED STATES STEEL

For more details circle NED-1001 F7 on enclosed inquiry slip

Mathews LIVE ROLLER CONVEYERS

ENGINEERED TO SERVE PRODUCTION



One of the many widely applied types of conveying equipment designed and built by Mathews Conveyer Company. The complete line of Mathews-designed, Mathews-built Conveyers includes the following:

CHAIN CONVEYERS • ELEVATING CONVEYERS • WHEEL CONVEYERS
BELT CONVEYERS • TROLLEY CONVEYERS • ROLLER SPIRAL CONVEYERS
PORTABLE CONVEYERS • SPECIAL CONVEYING MACHINERY

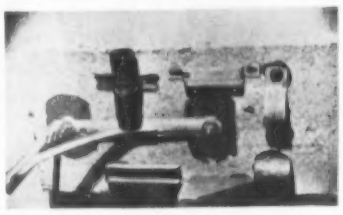
MATHEWS CONVEYER COMPANY
GENERAL OFFICES . . . . . ELLWOOD CITY, PENNSYLVANIA
PACIFIC COAST DIV. . MATHEWS CONVEYER COMPANY WEST COAST, SAN CARLOS, CALIFORNIA
CANADIAN DIVISION . . . . MATHEWS CONVEYER COMPANY, LTD., PORT HOPE, ONTARIO

MATHEWS
Fifty Years of Leadership in Mechanized Handling

For more details circle NED-1002 F7 on enclosed inquiry slip

New Processes & Materials

CONCRETE ADHESIVE
joins various materials to concrete



Conduit, piping, shelving brackets, wood, insulation and other materials can be fastened to concrete by Steel-patch adhesive. It is compounded of micronized steel and epoxy resin, is available in tubes, and is putty-like in consistency. A properly mounted bracket will reportedly support several hundred pounds. Joint is unaffected by heat, moisture and most chemicals. Product can also be used to bond broken machinery parts, to fill castings and to repair cracked engine blocks and pipe leaks. Large areas can be reinforced with glass fiber cloth. Made by **Lockrey Co.,** Plastics Div., Liqui-Moly Bldg., Southampton, N. Y.

For more details circle NED-1004 F7 on enclosed inquiry slip

NYLON BATTING
for insulation, filtration, padding

Among uses for Ny-Sul-Loft self-supporting nylon fiber batting are thermal insulation, liquid and gaseous filtration, vibration and shock absorption, padding and packing. Different degrees of filtration are achieved by using different denier fibers or blends. Material recovers its normal shape after impact without undue force. Batting resists fungus and mildew, is rapid-drying and resistant to alkalies and most acids. It will withstand a continuous 300° F and can be laminated or stitched by a heat process. Weights from 2 to 8 oz per square yard are produced in widths up to 55 in. Photo shows resistance of nylon batting (top) and wool (bottom) to sodium hypochlorite. Samples are available from **Star Woolen Co.,** Cohoes, N. Y.

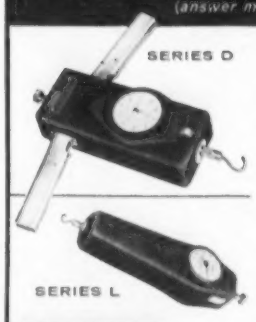
For more details circle NED-1005 F7 on enclosed inquiry slip

Heat Pumps

York Corp., Industrial Div.—Where and how the York compound-compression air-source heat pump can be used for commercial and industrial year around heating and air conditioning is explained in 12-page brochure. Included are system diagrams, cost analysis charts and performance charts.

For more details circle NED-1006 F7 on enclosed inquiry slip

PRECISION FORCE GAGES
(answer many test standard requirements)



Hunter Mechanical Force Gages are precision-built, direct reading instruments for measuring forces in tension and compression. Are accurate to within 1% of full-scale. "Hold-at-maximum" indicator available as optional feature. Types and sizes available for measuring forces ranging from 0-500 grams to 0-200 pounds.

Standard part of military aircraft kit, Force Gage is a tool for adjustment of controls.

Force Gage is fixture held to test precise electrical assemblies.

Plastics manufacturers use Force Gage to test bond strength of foil coatings on laminates

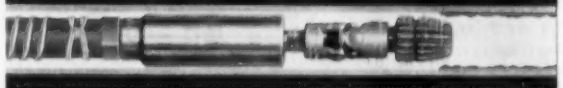
Thousands of force gages now used for inspection, testing, quality control in labs, on production lines, in the field.

WRITE FOR BULLETIN 750C

HUNTER Springs in Springs
HUNTER SPRING COMPANY
14 Spring Avenue, Lansdale, Pennsylvania

For more details circle NED-1007 F7 on enclosed inquiry slip

ELLIOTT SMALL TUBE CLEANERS



types to do all jobs quickly and effectively

ELLIOTT 600 SERIES for small tubes—straight or curved

These air- or steam-driven motors are excellent for routing light scale in tubes with inside diameters from ⅝" to 1¾". Various types of cutter heads and brushes are available for specific tube cleaning requirements.

ELLIOTT 5100 SERIES lightweight cleaner for removing medium scale

Air-driven motor with trigger action for motor control, finger-action valve for water flow, built-in speed governor and oil reservoir. Two sizes.

ELLIOTT SUSPENSION SERIES for heavily scaled straight tubes

Air, steam, or electric motor drives shaft fitted with drill or brush head. Motor is suspended outside, shaft and head enter tube.

ELLIOTT JIFFY GUN for extra-fast cleaning of light accumulations

Simply insert nozzle into tube and push. Released air or water pressure shoots nylon brushes or rubber plugs through condenser or heat exchanger tubes. For tubes ½" to 1".

For details on Elliott tube cleaning and maintenance equipment, contact Elliott District Office or write Elliott Company, Lagonda Division, Springfield, Ohio.

YZ-1A

ELLIOTT Company
Headquarters for Tube Cleaners and Expanders

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS • CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

For more details circle NED-1008 F7 on enclosed inquiry slip

CONTINUOUS MICRONIC CLARITY

for almost any liquid
any flow rate
any pressure

Industrial fluids of all kinds — oils — liquid chemicals — water — liquid fuels — lube oils — lacquer, paints, thinners — compressed air — CO_2 and other gases — commercial fluids: you can keep them clear, in flow rates up to 2,000 gpm, at pressures up to 5,000 psi, at minimum pressure drop.

Fulflo Filters
provide any degree of micronic clarity for liquids and gases. Genuine Honeycomb Filter Tubes are available in cotton, nylon, orlon, dacron, dynel or glass fibres; containers are made of iron, steel, stainless steel, rubber-lined steel or nickel-plated brass. Special models can be engineered to order.

CFC Honan-Crane Oil Filters
effect substantial savings by protecting moving parts and extending oil life. Multi-Cartridge Filter gives you a choice of six types of interchangeable cartridges for selective filtration of cutting, quenching and rolling-mill oils, transformer and insulating oils, turbine and vacuum pump oils, fuel and lube oils.

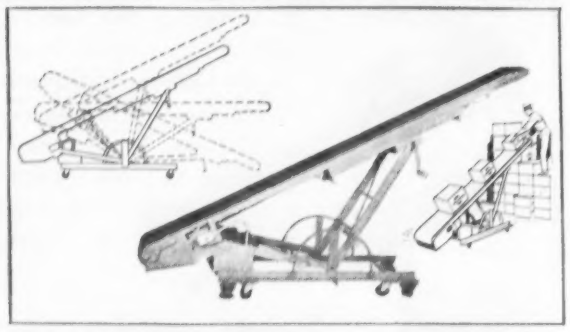
For engineering help — call on Commercial.
Write to Department NE for technical literature.

COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS

Plants in Melrose, Massachusetts and Lebanon, Indiana

For more details circle NED-1003 F7 on enclosed inquiry slip

Ask Standard



how HANDIBELT cuts costs in storage and shipping rooms

Lightweight, portable HANDIBELT conveyors move bags, cartons, boxes horizontally or at a variety of inclined or declined angles. Available with power feed section. For details, contact the Standard engineer listed in your phone book or write STANDARD CONVEYOR COMPANY, General Offices: North St. Paul 9, Minn. Sales and Service in Principal Cities. Ask for Bulletin 63-E. Address: Dept. K-6.

50 years of conveyor experience

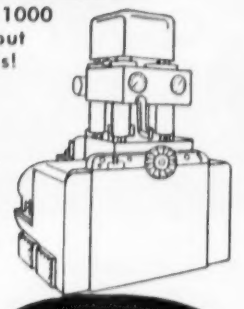
Standard GRAVITY & POWER CONVEYORS

▲ For more details circle NED-1009 F7 on enclosed inquiry slip ▲

PROTECTED

SLEEVES

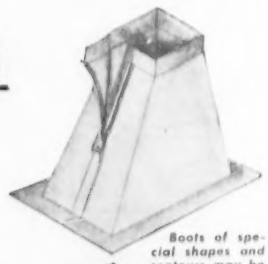
1 or 1000 without molds!



BOOTS

For drill and grinder spindles, press rams, piston rods and all similar uses. No size limitations.

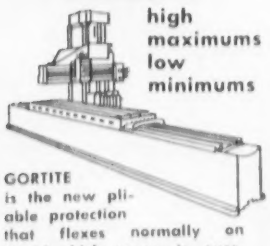
for dirt exclusion and lubricant retention!



Boots of special shapes and contours may be supplied with zippers to facilitate attachment.

WAY-PROTECTORS

high maximums low minimums



GORTITE is the new pliable protection that flexes normally on double-thick seams to overcome the weakness of leather and molded-rubber parts. Use the coupon to reserve a copy of new bulletin SPC-3.

Ways and cross rails are readily fitted with "C" and "L" type protectors.

A&A MFG. COMPANY INC.
712 S. 12th Street
Milwaukee 4, Wis.

☐ Mail new bulletin SPC-3 on contours and shapes.
☐ Mail general catalog AH-2.
☐ Ask salesman to call.

Company .....
Street ..... Zone ..... Box .....
City ..... State .....
My name .....

GORTITE

▲ For more details circle NED-1010 F7 on enclosed inquiry slip ▲

New Literature & Catalogs

Designing for Stud Welding

Gregory Industries, Inc., Nelson Stud Welding Div.—Tips for design engineers on how to take full advantage of the savings possible with stud welding are featured in 24-page illustrated "Design Manual." Details and properties of various types of studs that can be applied with stud welding guns are presented. Design considerations are covered.

▲ For more details circle NED-1011 F7 on enclosed inquiry slip ▲

Handbook of Bus Conductors

Properties and uses of aluminum bus conductors are presented in 280-page illustrated "Alcoa Aluminum Bus Conductor Handbook." All facts and figures required for the engineering and maintenance of bus installations are included. Write on company letterhead to Aluminum Co. of America, 793 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle NED-1012 F7 on enclosed inquiry slip ▲

Pinch Type Valves

Farris Flexible Valve Corp.—Capable of handling and controlling abrasives, corrosives, slurries, foods and chemicals, pinch type Flex valves are available in ½ to 12 in. sizes. In addition to describing available types of Flex valves, 52-page illustrated catalog FL-1116 contains complete engineering data section to aid in selecting and applying these durable controls.

▲ For more details circle NED-1013 F7 on enclosed inquiry slip ▲

Research Microscopes

Bausch & Lomb Optical Co.—14 different research microscope models are discussed in detail in 20-page booklet D-1057. Also included is information on full line of accessories and an up-to-date price list.

▲ For more details circle NED-1014 F7 on enclosed inquiry slip ▲

Machinery Malfunction Detector

Robertshaw-Fulton Controls Co., Fielden Instrument Div.—The Vibraswitch malfunction detector, a device that protects rotating and reciprocating machinery by anticipating any malfunction is described in 4-page bulletin 600-1. It shuts down equipment, or sounds an alarm the instant normal operating vibration is exceeded. Bulletin covers models as used in exposed or hazardous locations.

▲ For more details circle NED-1015 F7 on enclosed inquiry slip ▲

Solid Industrial Tires

Monarch Rubber Co.—A complete handbook on line of solid industrial tires, 16-page catalog MR-457 describes standard and special types, gives data on comparative performance tests and preventive maintenance recommendations. Company facilities are described as well. Supplementary 20-page bulletin 457-A lists current specifications for almost all makes of lift trucks to guide buyer selection.

▲ For more details circle NED-1016 F7 on enclosed inquiry slip ▲

New! BEAD CHAIN® DRIVES

Low-Speed, Positive Drives or Motion Transfer
... At Far Less Cost!

NOW—BEAD CHAIN—QUALIFIED FOR DRIVES

Swivel-like Bead Chain and special non-slip sprockets make any drive possible ... at low cost ... eliminates expensive gears, universal joints, etc. Perfect for inaccessible locations!

THE BEAD CHAIN MFG. CO.
16 Mountain Grove St., Bridgeport 5, Conn.

▲ For more details circle NED-1017 F7 on enclosed inquiry slip ▲

FIRM GRIP NO SLIP

MAKE HOSE CONNECTIONS FASTER WITH

EATON-RELIANCE

SEND FOR FREE ENGINEERING BULLETIN NO. 1

EATON RELIANCE DIVISION MANUFACTURING COMPANY
509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

▲ For more details circle NED-1018 F7 on enclosed inquiry slip ▲

CUTS COSTS

J&J SMOOTH ROLLING NOISELESS CASTERS with double ball bearing swivels

... your most *economical* buy because they are longer-wearing, offer completely dependable, trouble-free performance, thus making them *lowest in cost to service*. Don't waste your "replacement" dollars on casters of questionable service value. Specify J & J casters, the smoother-rolling, longer-rolling, cost-controlling kind.

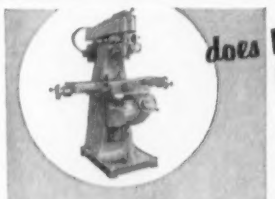
Distributed nationally

30 SERIES SWIVEL CASTER

Jarvis AND Jarvis, Inc.
PALMER, MASSACHUSETTS

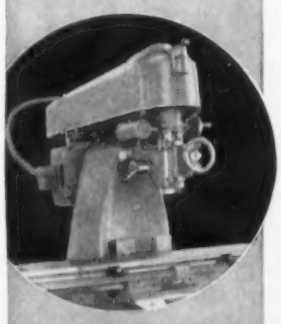
In Canada: Jarvis & Jarvis of Canada, 1744 William St., Montreal, Quebec

▲ For more details circle NED-1019 F7 on enclosed inquiry slip ▲



does MORE work... MORE easily

new POWER FEED HEAD U. S. Vertical Miller



Write for descriptive folder

THE U·S·Burke

Here's the new U. S. Vertical Miller with Power Feed Head—the head into which U. S. has built all the most wanted features without sacrificing traditional U. S. simplicity. Check its infinitely variable feed rate, its 800 pounds of down thrust on the quill, its supplemental hand feeds—it is the milling head that was designed to meet all shop needs.

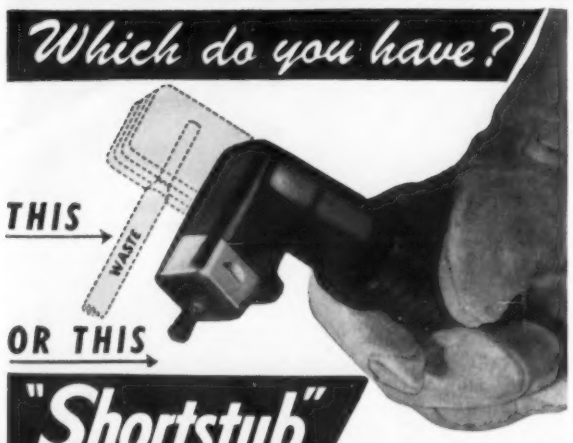
Add to these the basic advantages of the U. S. Vertical Miller. You can easily see why it's the milling machine that "does more work more easily".

more versatile
Feed infinitely variable from .002" to .008" while in operation
greater capacity
5½" power quill travel; 800 lb. down thrust
more convenient
Supplemental hand feeds
increased rigidity
Enclosed hard chrome plated quill with internal lock

MACHINE TOOL DIVISION
2 Brotherton Rd., Cincinnati 27, Ohio

▲ For more details circle NED-1020 F7 on enclosed inquiry slip ▲

Which do you have?



"Shortstub" ELECTRODE HOLDERS

Convert the total fluxed portion of every electrode into weld metal — REDUCE STUB WASTE TO A MINIMUM

TWO SIZES FILL ALL NEEDS
See your local welding Distributor or write for further information

SPECIFICATION Model No.	Cap. Amps.	List Price
4	400	7.70
6	600	8.80

Quantity prices save you 10 to 20%

"SHORTSTUB" is now recognized as the New Standard for Welding.

Manufactured by BERNARD WELDING EQUIPMENT COMPANY

For more details circle NED-1021 F7 on enclosed inquiry slip

for every conceivable footswitch need... turn to

THE EXECUTIVE
Sleek, modern, low-to-the-floor design · On-center pivot action · Guaranteed mechanical interlock prevents accidental tripping of two circuits

TREADLITE
One treadle · No larger than a pack of cigarettes · Responds to slightest pressure · Smart design

LINEMASTER

AMERICA'S FOOTSWITCH LEADER FOR OVER 20 YEARS

Here are 3 styles of 2-in-1 switches . . . typical of the tremendous variety offered by Linemaster in more than 5 different models of all types. Let us quote on YOUR switch requirements.

LEKTRO-LOK
Economical teeter-totter · Requires no costly harness assemblies · Mechanical interlock allows only one circuit to function at a time. Dependable · Lightweight

All have selective circuits. Write TODAY for bulletins and prices.

LINEMASTER SWITCH CORP. 424 Woodstock Terrace Woodstock, Connecticut

For more details circle NED-1022 F7 on enclosed inquiry slip

New Processes & Materials

NONSKID MAT
also eases tired feet and legs

Intended to reduce tiring of feet and leg muscles of standing workers, this Vinyl-top Comfort Mat has a nonskid backing which keeps it firmly in place in front of work area. Surface is impervious to grease, oils or water. Vinyl top is fused to Rubber-Top cushion. Mat is nonabsorbent and is easily wiped off with cloth or sponge. It retails for $1.98. Made by **Allen Industries, Inc.**, Vinyl-top Div., Dept. DTL, Leland at St. Aubin, Detroit 7, Mich.

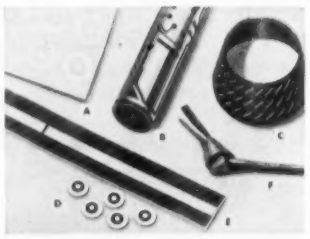
For more details circle NED-1024 F7 on enclosed inquiry slip

MOTOR REBUILDING
service for used electric motors

Service for rebuilding used electric motors offers a finished product that is tested to NEMA standards and sold with a guarantee. Old insulation is dissolved without direct application of flame. Laminated stator is sandblasted to clean the slots, and coils are individually insulated and placed in the stator for connection. Rotors are dynamically balanced and new bearings are installed prior to assembly and testing. Prices are reported to be 30 to 40 per cent of list. Service available from **W. M. Smith Electric Co.**, 3200 Grand Ave., Dallas, Tex.

For more details circle NED-1025 F7 on enclosed inquiry slip

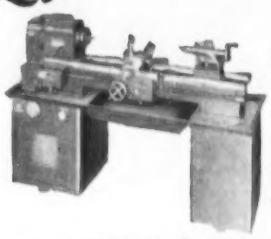
PRINTED CIRCUITS
conductive inks form circuits



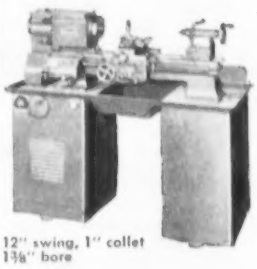
Direct-printed circuits for electronic industry uses can be applied to a base of almost any geometrical shape. Base materials include wide variety of plastics, mica, paper, wood, ceramics, glass and other materials. Conductive silver inks are applied only where required by circuitry, eliminating all etching. Lines as narrow as 0.005-in. ±0.001-in. can be printed with closely controlled depth of deposit. Some formulations can be dip or iron soldered. Photo shows condenser terminals printed on Teflon (A), circuits printed on inside or outside of tubes (B), depolarizing antenna element (C), condenser terminals after die cutting (D), microwave strip line filter (E) and flexibility illustrated by copper-plated silver circuit printed on 0.005-in. Teflon (F). Circuits can be printed only by **J. Frank Motson Co.**, Flourtown 2, Pa.

For more details circle NED-1026 F7 on enclosed inquiry slip

Logan THE LATHES FOR SUSTAINED ACCURACY



14" swing, 1" collet 1⅜" spindle bore



12" swing, 1" collet 1⅜" bore

10" swing, ½" collet 25/32" bore

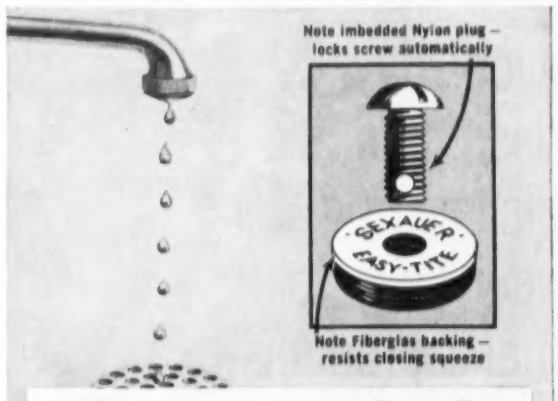
You can continue to depend on Logans for precision results. On every type of lathe operation Logan sustained accuracy keeps performance at top efficiency. Ruggedly proportioned as well as precision built, Logan Lathes keep their accuracy after years of use in tool room, shop or production.

Screw Cutting and Turret Lathes In a Wide Range of Sizes 9", 10", 11", 12" and 14" swing, all with Logan advanced design features.

See your Logan dealer, or write for catalog information.

LOGAN ENGINEERING CO. 4901 West Lawrence Avenue, Chicago 30, Illinois

For more details circle NED-1027 F7 on enclosed inquiry slip



Why Faucets Leak

—9 out of 10 washers are fastened with TOO LONG or SHORT —screws. The screws QUICKLY LOOSEN, thus loose washers —are destroyed thru grind and squeeze of opening and —closing faucets.

34 years of research uncovers new solution

—Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, —with an imbedded expanding NYLON PLUG, lock at the —required depth AUTOMATICALLY—hold washers FIRMLY!

—Made of rustproof, non-corroding MONEL, heads don't —twist off or screw slots distort. They are easy to remove —when necessary, can be used over and over.

—Used with NEW 'Sexauer' EASY-TITE faucet washers, this —combination outlasts past faucet repairs "6 to 1"! EASY-TITES are made of super-tough, pliable du Pont compound —(neither rubber nor fiber) and reinforced, like a tire, with —a vulcanized layer of Fiberglas, they resist distortion and —splitting from shut-off grind and squeeze.

The hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, STOPPING just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS—LABOR—and *costly* FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

J. A. Sexauer Mfg. Co., Inc. Dept. AU-67
250-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your NEW, 126 page catalog "H."*

My name ..... Title .....
Company or Institution .....
City ..... Zone ..... State .....

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-1028 F7 on enclosed inquiry slip

37 STAINLESS AND SUPER ALLOY ANSWERS TO CORROSION PROBLEMS IN TUBING AND PIPE

Standard Stainless Types

302	310	321
304	316	347
304L	316Cb	348
309S	316L	430
309Cb	317	442
309SCb	317L	443

Super Corrosion-Resistant Types

Carpenter Stainless No. 20Cb
Carpenter 7Mo
Carpenter Alloy B
Carpenter Alloy C
Titanium 55 and 70

Special-Purpose Types

Zirconium	Types 201 and 202
Zircalloy	Armco 17-7PH
19-9 DL	Titanium Alloys
HiMu 80	Haynes No. 25 (L-605)
N-155	Hastelloys F and X
Invar	A-286

Draw on this wide selection of Carpenter stainless, super-resistant, and special-purpose Tubing and Pipe for *service-proved, cost-saving* solutions to all corrosion problems in your plant or products you make. Carpenter quality and uniformity save time and money. Round and special shapes for pressure, mechanical, structural, sanitary, and other needs. Tubing sizes to 4½" O.D., 35 to 9 BWG, in wide variety of surface finishes. Schedules 5 and 10 pipe to 4", Schedule 40 to 2". Prompt service and technical help from distributors in over 40 cities. Request *Selecting and Buying Guide* Bulletin T.D. 120.

MEMBER The Carpenter Steel Company Alloy Tube Division, Union, N. J.

Export Dept.: The Carpenter Steel Co., Port Washington, N. Y.—"CARSTEELCO"

Carpenter Stainless Tubing & Pipe

For more details circle NED-1023 F7 on enclosed inquiry slip

NEW RUST-FIGHTING PLAN . . . . .

There are no tricks—no secrets. It's a simple matter of getting the *right* rust preventive on the job.

Examples:

RUST VETO M.P.— multi-purpose base; mixes with water, solvent, oil. Dependable, economical and fire safe.

RUST VETO 266— combination rust preventive, cleaner, fingerprint neutralizer. Displaces water, residue, acids. For temporary production-line protection.

RUST VETO 377— a polar type preventive for long term indoor storage. Withstands 30-day humidity cabinet test at 100°F.

RUST VETO 344— produces fast drying polar-active asphaltic film. Used for long-term outdoor protection of metal.

Every rust problem has one *best* solution. Ask the Houghton Man to show you . . . or write for Houghton's rust preventive booklet. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

RUST VETO *. . . a product of*

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

▲ For more details circle **NED-1029 F7** on enclosed inquiry slip ▲

every day, designers are discovering new ways to make products better, more efficient...with

Precision manufactured from DuPont Nylon Resin to close tolerance of +.001 on diameters and .0005 on sphericity, Ace Nylon Balls give **design flexibility** and **production economy.** Light in weight . . . tough at low temperatures . . . stable at high temperatures . . . resistant to corroding chemicals such as sulphuric acid, etc. . . almost abrasionproof . . . these mass-produced balls have hundreds of industrial applications. Come in 14 standard sizes from 1/8" to 3/4". Complete facilities for fabrication of plastic parts for all industries. Estimates submitted promptly on receipt of blueprints or specifications.

Write for samples, bulletin, price list TODAY.

ACE PRECISION NYLON BALLS

ACE PLASTIC COMPANY *Extrusion Molders and Fabricators*

91-28 Van Wyck Expressway, Jamaica 35, N. Y. • JAmaica 3-5500

▲ For more details circle **NED-1030 F7** on enclosed inquiry slip ▲

NEW FACTS on *fail-safe* braking

Write for this factual booklet describing Warner's new Power-Safe brake—first *electric* brake ever to combine full-time reserve braking power with fast, pushbutton or automatic power braking. No moving parts in the fail-safe feature. Not just an "off-on" brake—torque can be modulated electrically within a wide range. Braking is accomplished by full-contact, electromagnetic engagement of the armature and replaceable face. Gives you constant torque. No springs to change pressure, and no "fade" due to wear. Completely described and illustrated in this attractive six-page bulletin, No. 6291, just off the press. Write for your free copies.

WARNER

Beat competition with

ELECTRIC BRAKES AND CLUTCHES

Warner Electric Brake & Clutch Co., Beloit, Wis.

▲ For more details circle **NED-1031 F7** on enclosed inquiry slip ▲

New Literature & Catalogs

Warning Lights

R. E. Dietz Co.—Uses, maintenance and historical data on portable and hazard warning lighting equipment are subject of illustrated catalog 57. Described is a complete line which includes kerosene lanterns and highway torches, Visi-Flash transistorized warning flashers and Comet electric lanterns.

▲ For more details circle **NED-1032 F7** on enclosed inquiry slip ▲

Air Cleaners & Dust Collectors

Kirk & Blum Mfg. Co.—Centrifugal collectors for efficient air cleaning and collection or recovery of dust are described in 6-page illustrated folder C-1. Forty-one sizes are listed and details of operation are given.

▲ For more details circle **NED-1033 F7** on enclosed inquiry slip ▲

Air & Hydraulic Couplings

E. B. Wiggins Oil Tool Co.—Details of the complete line of Connect-O-matic couplings for high or low pressure hydraulic and pneumatic systems are contained in 8-page illustrated bulletin. Self-sealing when disconnected, couplings meet military and industrial requirements.

▲ For more details circle **NED-1034 F7** on enclosed inquiry slip ▲

Air & Hydraulic Cylinders

Teer-Wickwire & Co.—Squarehead S-Line cylinders for up to 1000-psi hydraulic and 250-psi pneumatic service are detailed in 8-page illustrated bulletin S-101. Made in 1½ to 6-in. bore sizes, they are offered in cushioned and noncushioned types with male hinge, hinge pin and piston rod eye mountings.

▲ For more details circle **NED-1035 F7** on enclosed inquiry slip ▲

Liquid Processing Meters

Neptune Meter Co.—28-page bulletin 566 has been revised to help process engineer select the best meter-register combination for any industrial liquid metering job that can be handled by company's standard line of meters. Subjects covered include how meters save, liquids that can be handled, construction, register types and meter sizes.

▲ For more details circle **NED-1036 F7** on enclosed inquiry slip ▲

Tape Recorder in Business, Industry

Minnesota Mining & Mfg. Co.—The advantages of tape recorder use in more than 70 business and industrial applications is explained in 40-page pocket-size booklet M-BI. It tells how tape recorders are used in management communications, methods and procedures in factories, and in personnel, sales, advertising and public relations departments. Table lists reel size and playing time of six tapes ranging in length from 150 to 3600 ft. Playing times range from 3¾ minutes to 6 hours.

▲ For more details circle **NED-1037 F7** on enclosed inquiry slip ▲

Rubber Expansion Joints

Garlock Packing Co.—Construction, sizes and uses of rubber, neoprene and Teflon-lined expansion joints are explained in bulletin Ad-137. Spool-type, rectangular, U-type and all-Teflon expansion joints; all-Teflon flexible couplings; full-face Teflon lined rubber expansion joints; and expansion joints for use on piping and flanges are covered.

▲ For more details circle **NED-1038 F7** on enclosed inquiry slip ▲

Electrical Connectors

Cannon Electric Co.—Seven basic shell types with eight insert sizes offer over 220 amperage and voltage ratings in line of K and RK electrical connectors for aircraft, radio, instrument and general electrical use. They are detailed in 64-page catalog K6.

▲ For more details circle **NED-1039 F7** on enclosed inquiry slip ▲

Pneumatic Car Unloading System

Sprout, Waldron & Co.—Dry pulverized and granular materials are rapidly unloaded from freight cars by the improved Pneu-Vac pneumatic conveying system described in illustrated bulletin 174. Negative pressure or vacuum system is dustless and self-cleaning. Specifications are given.

▲ For more details circle **NED-1040 F7** on enclosed inquiry slip ▲

Stamping Presses

Alpha Press & Machine, Inc.—Design and mechanical features, specifications and illustrations of two-point back gear, high speed automatic stamping presses are contained in 12-page catalog 57-2. Line includes 75, 100, 150 and 200-ton production machines. Diagrams show functional parts.

▲ For more details circle **NED-1041 F7** on enclosed inquiry slip ▲

▲ For more details circle **NED-1042 F7** on enclosed inquiry slip ▲

TURNIT

***Assures* 50% LESS TURNOVER HERE where it really counts**

TURNIT, makes *correct* rotation of diamond tools a simple effortless operation; saves 50% and more in diamond tool cost.

Now you can get a better wheel finish, closer work tolerance, longer wheel life and, at the same time, eliminate wheel glazing and minimize grinding wheel heat, cracks and fractures.

There is a TURNIT for almost every grinding application on all types and models of grinders. Whether you wish manual or automatic operation, internal or external installation call or write for recommendations.

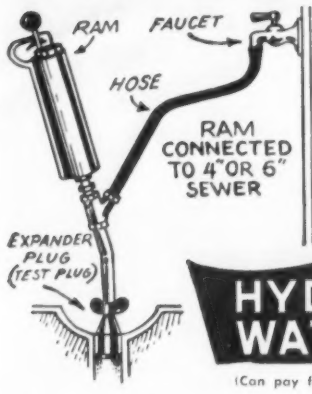
For further information ask for your copy of the new Turnit bulletin.

J. K. Smit are also manufacturers of diamond tools, diamond wheels, diamond drill bits, diamond lapping compound and diamond powder.

J. K. SMIT & SONS, INC.
Murray Hill, N. J.
TORONTO • • • DETROIT

▲ For more details circle **NED-1043 F7** on enclosed inquiry slip ▲

Enjoy 30 Day Free Trial!



Easily clears the most stubborn drain and sewer stoppages

The ideal plumbing service tool for maintenance men!

Comes equipped with self-contained compressor and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

(Can pay for itself in one application!)

Why lose time, suffer inconvenience, waste dollars on needlessly costly plumbing service? The Hydraulic Water Ram clears severest blocked drain lines and sewers in minutes. No chemicals, no snakes, no electric cables, no pushing through. Saves costly outside help, or expensive torn up piping. Uses IMPACT, (HYDROSTATIC) a basic scientific principle of POSITIVE HYDRAULIC POWER. Shatters hard grease, debris, other blockage into fragments easily flushed down to main. Works perfectly, vent or no vent! Services up to 6" pipe. Works perfectly on all types of clogged toilets, sinks, sewers, etc. Can pay for itself in a single application. Nothing to wear out. Good for a lifetime. Thousands in use, including over 3,000 in government agencies. You risk nothing. Write for details on how to get free 30 day trial at our expense.

Saves on Outside Help

Saves Torn-Up Plumbing

Write for Information, Prices, Details of Free Trial Offer!

HYDRAULIC MANUFACTURING CO.

Dept. NED-6 Kiel, Wisconsin

For more details circle **NED-1044 F7** on enclosed inquiry slip

how Spirolox Retaining Rings

withstand repetitive shock loads

without jumping the groove!

Unique Spirolox *two-turn* construction enables it to resist shock loads and thrust forces up to its own shear strength. Under thrust, the coils are actually "squeezed" together, thus forming a "friction lock" which makes Spirolox stay in the groove. Blueprint below points out how this "stay-put" characteristic is put to work in a Coaster Brake Assembly. Collar rides to Spirolox, making it necessary for retainer ring to withstand repeated shock loads due to brake application without shearing or jumping groove.

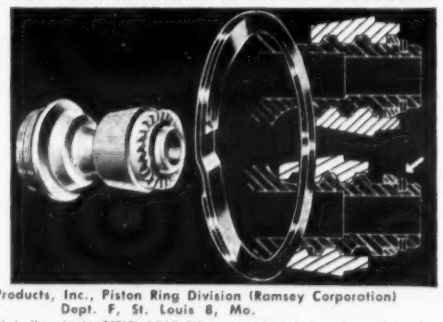
Flip! it's out

U. S. Pat. No. 2,450,425 and Foreign Pats. Other pats. pend.

5441RT

SEND FOR FREE TEST SAMPLES and DATA BULLETIN

Get simpler, more compact design; elimination of trouble spots; removal of awkward parts and costly machining!



SPIROLOX—the Better Way to Hold Moving Parts TOGETHER!

Thompson Products, Inc., Piston Ring Division (Ramsey Corporation) Dept. F, St. Louis 8, Mo.

For more details circle **NED-1045 F7** on enclosed inquiry slip

EFFICIENCY + PLUS

THE DEPENDABLE **ROPER**

FOR GENERAL PURPOSE PUMPING

Efficient, dependable pumps noted for endurance and high records of performance. They serve tank trucks, refineries, process plants and general industries — they will do an equally productive job for you. Series 3600 pumps feature hardened helical pumping gears, high-lead bronze bearings, split packing gland, adjustable relief valve. Standard or special fitted models; pressures to 100 P.S.I. — capacities 40 to 300 G.P.M.

Send for Booklet "HOW TO SOLVE PUMPING PROBLEMS"

ROPER Rotary Pumps

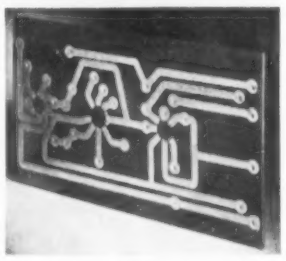
SEE OUR CATALOG IN SWEET'S

GEO. D. ROPER CORP. 666 Blackhawk Park Ave. ROCKFORD, ILL.

For more details circle **NED-1046 F7** on enclosed inquiry slip

New Processes & Materials

PRINTED CIRCUIT BOARDS
for high humidity conditions



Made of Fotoceram, a strong Corning photosensitive glass, metallized glass printed circuit board for high humidity applications can withstand a continuous operating temperature of 500° C. Glass of the high electrical resistivity units has an etching ratio 15 times higher than conventional glass, permitting accurate chemical "machining" of small, close tolerance holes on close centers. Boards are available in after-etching thicknesses of 0.050, 0.063, 0.075, 0.115, 0.140, 0.170 and 0.235-in. Maximum size is 12 x 18 in. Other sizes and thicknesses can be specified. Made by **Corning Glass Works,** Dept. 21, Box 544, Corning, N. Y.

For more details circle **NED-1047 F7** on enclosed inquiry slip

HIGH TEMPERATURE LUBRICANT
solid film type withstands 800° F

Coefficient of friction of high temperature solid film lubricant No. 2006 has been measured as low as 0.022 at high loads at 550° F. Suited for operating temperatures up to 800° F, it will withstand up to 1000° F under many conditions, such as prevention of galling and seizing of threaded parts and fasteners. Lubricant is composed of silicones, high temperature phenolics and micro-fine particles of moly-disulphide and synthetic graphite. Made by **Electrofilm, Inc.,** Dept. LBP-6, Box 106, North Hollywood, Calif.

For more details circle **NED-1048 F7** on enclosed inquiry slip

CONCRETE TREATMENT
sprayed on to seal, cure and harden

Both new and old concrete can be treated with Speed-O-Laq 4014 concrete clear coat, a chlorinated rubber base material that seals, cures and hardens concrete. Applied by spray, it penetrates to a depth of 1/8-in. and dries in 30 to 60 minutes. Application can be immediately after troweling. Treated surface is impervious to oils, greases, salts and mild acids. Made by **Speed-O-Laq Products,** Dept. N, 2386 Wycliff St., St. Paul, Minn.

For more details circle **NED-1049 F7** on enclosed inquiry slip

New Vinyl Shop Ticket Protector That Can't Rot, Scratch or Break

A totally new type of transparent shop ticket protector, the VPD KNOCKABOUT, made entirely of vinyl to eliminate dirt-catching fabric edgings that invariably tear or unravel, has been produced by the JOSHUA MEIER CO., INC. of New York.

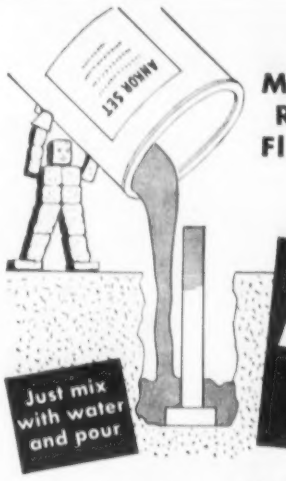
Constructed of extra heavy clear flexible vinyl that can't crack and resists scratching, this new VPD KNOCKABOUT will last almost 10 times longer. Thus usual replacement expense on shop ticket protectors is cut tremendously and sizeable savings are effected.

Designed to protect important shop data and work orders, the VPD KNOCKABOUT is especially suited for plants where chemicals, dyes, fluids and greases are used since contact with these substances tends to rot fabric edgings of the ordinary shop ticket protectors.

Sturdy reinforced construction features heat-sealed edges plus rounded corners to prevent fraying. Top hole for hanging is provided. Comes in four stock sizes: 4" x 6", 5" x 8", 6" x 9" and 8½" x 11". FREE SAMPLE AVAILABLE when requested on company letterhead from the manufacturer.

Write to Department NED-6, JOSHUA MEIER CO., INC., 601 West 26th Street, New York 1, N.Y. Advt.

For more details circle **NED-1050 F7** on enclosed inquiry slip



ANCHOR
Machines, Motors, Rails, Partitions, Flanges, Seats, etc.
IN CONCRETE PERMANENTLY

USE ROCK-TRED **ANKOR SET**

Just mix with water and pour

- Easy To Apply
- Sets in ½ Hour
- Non-Shrinking
- Self-Bonding
- Contains No Pitch, Asphalt or Resin

Also for fast-patching cracks and holes in concrete

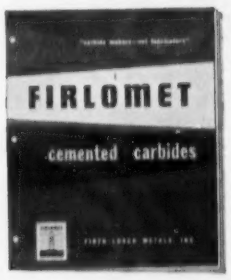
Comes packaged ready to use. Simply add water and apply. Quickly forms an extremely hard durable bond that becomes an integral part of the floor. Blends with surrounding concrete. Send for details.

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

For more details circle **NED-1051 F7** on enclosed inquiry slip

THIS NUMBER

BRINGS YOU THIS CATALOG



telling you of an "approved" source of cemented carbides

FIRLOMET, a new true low-porosity carbide, has *already proved* its greater resistance to edge wear, chipping and cratering. It's a carbide with greater impact strength and more uniform qualities throughout.

Yet FIRLOMET *costs no more.*

Here's why: Firth-Loach's new laboratory-like plant (all new equipment, the very latest of its type) makes possible unusually precise production control. The laboratory-like approach to carbide-making, with rigid inspections at every step, results in a finer carbide.

Take this first step: Our new catalog describes all types, sizes and grades of FIRLOMET, gives price information. Send for it today.

FIRLOMET

FIRTH-LOACH METALS, INC.
Buttermilk Hollow Road, McKeesport, Pennsylvania
"Carbide Makers—Not Fabricators"

For more details circle **NED-1052 F7** on enclosed inquiry slip

QUICK WAY TO CUT KEYWAY CUTTING COSTS

Using a *Minute Man* Keyway Broach Kit, you can cut keyways in just one minute for as little as a cent a piece. For keyways from 1/16" to 1" in any bore from ¼" to 3".

Minute Man Broaches for square and hexagonal holes and Production Type Keyway Broaches are also available from stock at your Industrial Distributor's.

THE du MONT CORPORATION, Greenfield, Mass.

MAIL FREE BROACH CATALOG AND PRICE LIST D describing 26 standard kits, 49 standard broach sizes, 59 standard brushing sizes and a wide range of SPECIAL BROACHES to

Name .....

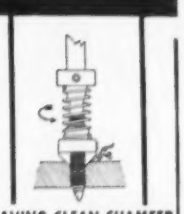
Company .....

Address .....

For more details circle **NED-1053 F7** on enclosed inquiry slip

TAP AND DEBURR IN ONE OPERATION

Slip a BURR-BIT onto any make tap and holes are automatically deburred while they are being tapped. Save money, time and labor by COMBINING TWO OPERATIONS INTO ONE.



AS TAP IS WITHDRAWN, DEBURRS, LEAVING CLEAN CHAMFER

First thread which creates burr, has been AUTOMATICALLY, QUICKLY AND PRECISELY REMOVED, leaving perfectly smooth finish for easy screw insertion.

Precisely engineered of finest quality high speed tool steel for use on almost every material. The BURR-BIT is used by many large and small manufacturers throughout the country.

For full information and specifications on the BURR-BIT, write to

VERNON DEVICES, Inc.

481 E. 3rd Street Mt. Vernon, N.Y. MOunt Vernon 4-1686

For more details circle NED-1054 F7 on enclosed inquiry slip

15 MINUTES TO CLEAN A MACHINE

It used to take half a day to clean a single-unit knitting machine in a hosiery mill. Now, with a Turbo Steam Cleaner, 4 to 5 machines can be cleaned in an hour — cleaned and degreased more thoroughly than ever before.

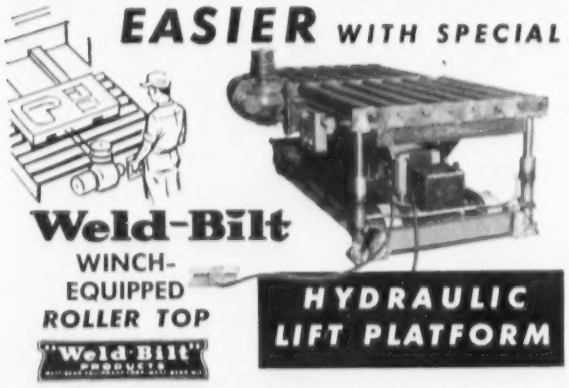
With a Turbo Steam Cleaner, either oil-fired or electrically heated, grease and grime vanish faster. You get steam in less than a minute, cut fuel consumption up to 20% over conventional steam cleaners.

Send for new illustrated folder with full details. Turbo Machine Company, Lansdale, Pennsylvania.

Turbo Steam Cleaners

For more details circle NED-1055 F7 on enclosed inquiry slip

MOVE HEAVY PRESS DIES EASIER WITH SPECIAL



Those extra heavy dies move on and off your big presses with surprising speed and little effort—with this new Weld-Bilt Hydraulic Lift Platform. Just raise the platform to proper press level, secure the cable hook to the die, push a button—and the winch does the work.

Built to handle 20,000 lbs., this new unit, 48" x 96" long, has two sets of conveyor rollers, with a special motor driven winch mounted on one end. Platform is raised or lowered by means of two-way foot pedal control operating hydraulic pump and motor.

Steel wheels and swivel front casters, plus tow-bar, permit easy movement and positioning of the table.

You, too, may have a lift-or-move problem in heavy equipment. Weld-Bilt engineers can offer a profitable solution. Write, we'll be glad to supply details.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

For more details circle NED-1056 F7 on enclosed inquiry slip

New Literature & Catalogs

Prefabricated Steel Buildings

Black, Sivalls & Bryson, Inc.—Truss-type Perfection prefabricated steel buildings are available in variety of sizes and styles in regular increments up to 100 ft in width, 20 ft in height and unlimited lengths. They have prefabricated wall panels with door and window frames installed during fabrication. Details can be found in 4-page bulletin 56-101.

For more details circle NED-1057 F7 on enclosed inquiry slip

Metalworking Machinery

Julius Blum & Co.—A vast variety of shop equipment and supplies, with emphasis on the requirements of metal fabricators, is described and illustrated in 68-page catalog 26 entitled "Metal Working Machinery." Equipment for bending, grinding, punching, shearing, sawing, welding, forging, drilling, tapping, threading, bar twisting, straightening, notching and materials handling is covered.

For more details circle NED-1058 F7 on enclosed inquiry slip

Thread Tools

Jones & Lamson Machine Co.—"Let's Talk About Thread Tool" is an illustrated 20-page bulletin (GL-5701) which presents specifications and other data on revolving tangent, stationary tangent, taper receding, radial chaser and other die heads, chasers, die accessories, die head holders, chaser sharpening equipment, collapsible and adjustable taps, and replacement parts.

For more details circle NED-1059 F7 on enclosed inquiry slip

Sealing & Insulating Tapes

Bishop Mfg. Corp.—Revised catalog covers new advances in tapes for permanent moisture sealing, rapid insulation build-up, permanent cable jacketing, high-voltage cable splicing and general insulating purposes. General information, recommended uses and packaging details are included in catalog along with charts showing test results on each product.

For more details circle NED-1060 F7 on enclosed inquiry slip

Carbide Tool Guide

Elgin National Watch Co.—Highlighted in 12-page guide on Golden Circle carbide rotary tools is information on the new line of electro-ground end mills. Two pages are devoted to operating suggestions covering end mill, reamer, drill and burr speeds, as well as data on recommended feeds when working with most metals, hard rubber and plastics.

For more details circle NED-1061 F7 on enclosed inquiry slip

Magnetic Clutches & Brakes

Fawick Corp., Fawick Airflex Div.—Dimensional drawings and specifications are provided in 6-page folder M-101 on magnetic clutches and brakes ranging in size from 2 to 13 in. Torque ratings for clutches range up to 48,000 lb-in.; for brakes, up to 6944 lb-in.

For more details circle NED-1062 F7 on enclosed inquiry slip

HOT TIP! with a WELLER gun you SOLDER in 5 seconds

Weller Guns meet every soldering requirement. Models from 100 to 275 watts . . . single and dual heat types. Choose the one that meets your wattage needs.

Best for Intermittent Soldering
Triggermatic control gives you instant "on-off" heat—no need to unplug between jobs. You're always set to solder . . . in 5 SECONDS . . . with a Weller gun!

Best on Every Other Count too
- Perfectly balanced pistol grip
- Streamlined—reaches into tight spots
- Dual spotlights eliminate shadows
- Long-life replaceable tips
- Models from $7.95 up—Guaranteed 1 year

Order from your Distributor or Write direct for Catalog

Weller SOLDERING GUNS

601 STONE'S CROSSING ROAD • EASTON, PA.

For more details circle NED-1063 F7 on enclosed inquiry slip

Plastic Seal BETTER PACKAGING at LOWER COST!

Protects parts FROM RUST AND DAMAGE *while handling or shipping!*

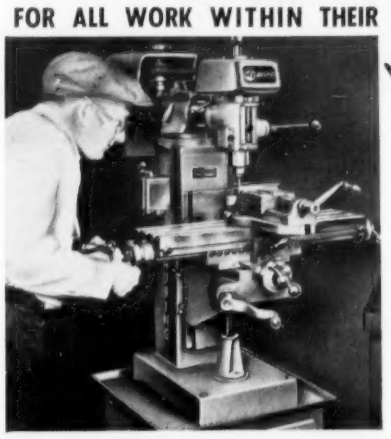
Plastic Seal forms a skin tight coating that is moisture-proof and air-tight. Strongly resists shock and abrasion. Ideal for bulk shipments — requires less wrapping — reduces cost. Although Plastic Seal is tough it can be easily peeled. Transparency allows instant inspection and identification. Also available in colors for coding.

Write for information on Plastic Seal Dipping equipment and Plastic Seal hot-dip protective coatings.

PLASTIC SEAL A PRODUCT OF
GLOBE IMPERIAL
DIVISION OF PRECISION CASTINGS CO.
2023 KISHWAUKEE ST. ROCKFORD, ILLINOIS

For more details circle NED-1064 F7 on enclosed inquiry slip

"WE PREFER CLAUSING VERTICAL MILLS FOR ALL WORK WITHIN THEIR CAPACITIES!"



The new CLAUSING VERTICAL MILLER is the most accurate machine of its type. The spindle head can be swiveled in a vertical plane and set at any angle, and the turret rotated in a horizontal plane making it possible to mill, drill, bore, ream and shape at all angles with one work set-up.

"Our men prefer Clausing vertical mills for all work within their ½" cutter capacity. They're certainly as accurate as larger machines, and they are far more efficient . . . work set-up is easier, they're easier to get around, and they're far more sensitive."

The Progressive Machine and Tool Company

CONDENSED SPECIFICATIONS

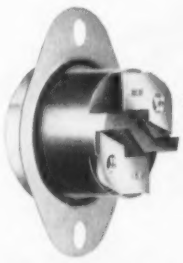
Size of Table	6" x 24"
Longitudinal Table Travel	15"
Transverse Table Travel	5"
Vertical Table Travel	11⅝"
Maximum Distance Spindle to Column	8¾"
Quill Travel	3"

Write For Literature

CLAUSING DIVISION ATLAS PRESS COMPANY
6-113 N. Pitcher St., Kalamazoo, Michigan

For more details circle NED-1065 F7 on enclosed inquiry slip

Maytag continues to specify and use KLIXON Snap-Acting Controls in Newest Dryers



In designing their newest electric dryer, Maytag engineers retained an outstanding feature of previous models — the use of KLIXON snap-acting, fixed temperature controls. Here's how Maytag feels about these thermostats:

"In the past we have specified and used tens of thousands of KLIXON Snap-Acting Thermostats. We have found that they continually meet our standards of performance. We feel that KLIXON controls insure accurate temperature control."

You, too, can benefit from using KLIXON Fixed Temperature Controls. They are available in many sealed and open types in a wide variety of operating temperature ranges. Get full details on how KLIXON engineers, specialists in temperature control application, can help you. Write for THSN catalog sheets.

METALS & CONTROLS CORPORATION
Spencer Thermostat Division 3306 Forest Street, Attleboro, Mass.

For more details circle NED-1066 F7 on enclosed inquiry slip

USE THIS SELF-MAILER FOR MORE INFORMATION

FOLD — SEAL — MAIL

SECOND FOLD TO THIS LINE

Circle the Numbers Below corresponding to items on which you want additional information. Your request will be sent promptly to the manufacturer. Please fill in the coupon completely. We'll pay the postage.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201
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FOLD BOTTOM EDGE TO THIS LINE

20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171	1221
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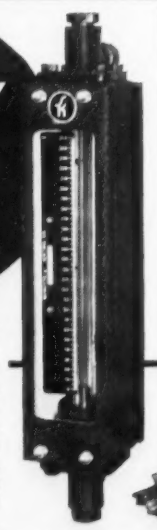

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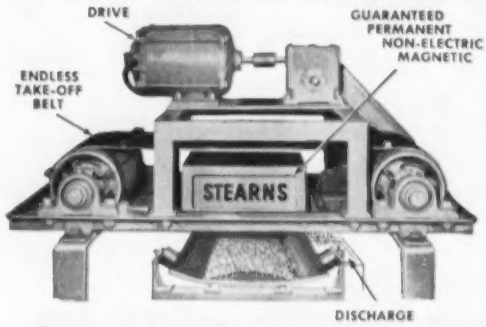

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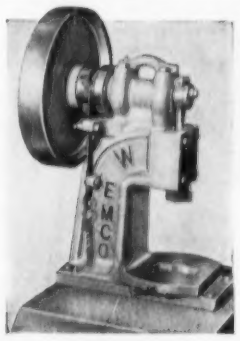

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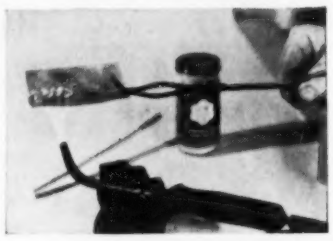
ALL METAL LIQUID SOLDERING FLUX



New liquid aluminum soldering flux makes possible sweating on aluminum, stainless steel, monel, copper, brass, steel, or any combinations of same. The newly developed liquid chemical actually breaks the surface oxide on all types of aluminum so that a sweat job is possible in the same manner as ordinary flux on the common metals. Called Liquid ASMC Flux it makes possible the soldering together of such dissimilar metals as stainless steel to aluminum or any combinations of the above metals to aluminum or each other. When used in combination with Farrelloy All Metal Solder the Flux eliminates the electrolytic action between dissimilar metals so that a permanent bond, highly resistant to corrosion is obtained. ASMC Flux makes possible the use of induction heat as well as torch or iron. Production jobs using induction heat are now being accomplished putting two brass studs on Aluminum Name Plates at the rate of 250 per hour. Same flux when used with Farrelloy Solder is equally effective on filling in blow holes in aluminum castings, sweating name plates on cast iron, and many other jobs. ASMC Flux is priced at $3.50 per pound, fob Philadelphia. Farrelloy Solder $2.00 per pound, fob Philadelphia (14 bars to the pound). Write **Farrelloy Company,** Dept. NED, 1246 North 26th St., Philadelphia 21, Pa. *Advt.*

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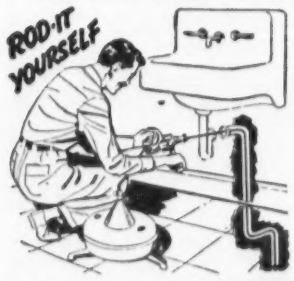
YOU MUST READ THIS!

Before you pay out another costly plumbing bill



Chicago—June . 1st—Factories Offices, Machine Shops including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—here is a **new Rodding Tool** designed to clean out the most stubborn drain & sewer stoppages. Not just an ordinary rod, but a patented unit guaranteed to make every bend up to 100 ft. A new discovery in Swedish music wire gives the rod 100% more flexibility than any other sewer cable. Yet anyone can operate this rod which is whirled down the drain in a few minutes.

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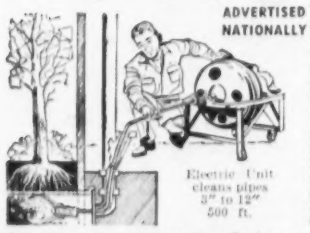

Electric Unit cleans pipes 3" to 12" 500 ft.

TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, soap, metal chips, and sand can be cleared **saving the owner the Rodding Tools price, the first time it is used.** Cutter blades can be attached for removing roots. This new unit can be used on any ½" to 6 inch waste pipe including Septic Lines, Sewers, Laundry Tubs, Bathtubs, and avoids Flooded Basements. Obstructions give away immediately when struck by this new type of Sewer Machine.

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Please send FREE BOOKLET on Rodding. I am not obligated.

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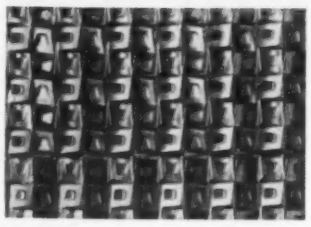
New Processes & Materials

EMBOSSED METAL
pattern strengthens 48-in. sheet



Constantly changing appearance is created by the 4032 reflective surfaces of Rigid-tex 1-RL embossed metal sheet. The 48-in. wide sheets are suited for curtain wall panels and other large surfaces. Strengthening the metals horizontally and vertically, the pattern produces a variety of lights and shadows. Its repeat pattern is not obvious. Maximum gage is 0.062-in. and maximum pattern depth is 0.073-in. Made by **Rigidized Metals Corp.,** 717 Ohio St., Buffalo 3, N. Y.

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will not melt or freeze

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features dimensional stability

Made of 60 per cent polyethylene and 40 per cent cellophane, Rajah No. 66 transparent tape resists normal atmospheric changes and has good dimensional stability. It is available in 2592-in. commercial size rolls only, in widths of ⅜, ½, ¾ and 1 in. Each roll is heat sealed in a poly - aluminum foil - paper pouch. Made by **General Tape Corp.,** Dept. DEN, First National Bank Bldg., St. Paul 1, Minn.

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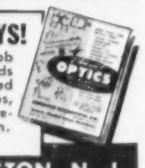

EDMUND SCIENTIFIC CO., BARRINGTON, N. J.

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New B&D Heavy-Duty IMPACT WRENCH

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30 and 50 tons capacity

6 Bed Lengths

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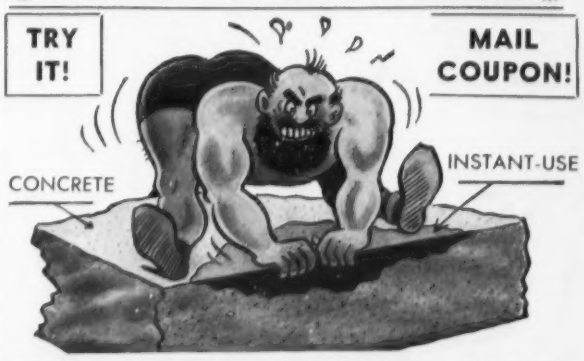

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